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Views New Computers

July 29, 1957

RAILWAY AGE *weekly*



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CLASS A-22-XL



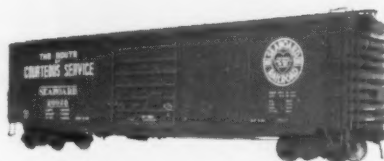
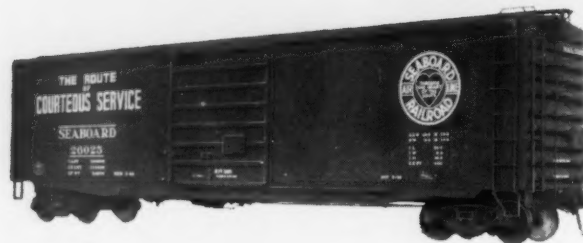
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Federal equipment financing urgedp.11

Details of government agency leasing plan are given by J. M. Symes of the PRR. Speaking for 34 eastern roads, he says locomotives and freight and passenger cars which otherwise could not be bought would be made available under the plan.

CofGa control opens southeast to Friscop.12

Division 4 decision will be appealed to full commission by Illinois Central, but Frisco sees way cleared for improving service in expanding economy.

Automation takes command in modern yards.....p.14

Here's a comprehensive report on recent developments in electronic classification controls. The magnitude of freight claims traceable to rough handling makes automatic retarder systems an economic must.

How Clerks' Harrison views new computersp.19

EXCLUSIVE: An interview with the brotherhood leader on the problems of office automation. Anxious to be a partner from the start in future computer planning, he speaks frankly on "outside" hiring, training, seniority, "attrition" and severance.

Traffic volume is biggest railroad needp.25

That's how the new Atlantic Coast Line president, 45-year-old W. Thomas Rice, sees it. Capacity operations, attained through good rates and service, are the key.

TOFC steps out as coast-to-coast service loomsp.30

Die-hard devotees of all-rail billing and "heretical" collaborators with truckers are expanding their piggyback operations. Work goes ahead to build the tariffs for regular transcontinental TOFC service.

New dunnage cushions with airp.32

Reduced damage bills, lowered shipper costs and faster loading are attributed to use of air-filled rubber bags gaining broadening popularity.

Do railroad apprenticeships pay off?p.41

After you recruit and train young craftsmen, how do you keep them working on the railroad? The industry can't afford a haphazard approach to the problem.

24 RL—the road locomotive brake that can be kept modern

Sectional construction, as followed in the 24 RL Brake Valves, provides for the addition of new or improved functions merely by the substitution of sections. The advantage, of course, is that the brake equipment can be kept modern with minimum investment as compared to entire brake valve replacement.

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Week at a Glance CONT.

Current Statistics

Operating revenues, five months	
1957	\$4,365,911,101
1956	4,336,348,021
Operating expenses, five months	
1957	\$3,424,599,021
1956	3,351,512,386
Taxes, five months	
1957	\$454,863,574
1956	462,136,901
Net railway operating income, five months	
1957	\$376,272,969
1956	416,335,294
Net income estimated, five months	
1957	\$287,000,000
1956	324,000,000
Average price 20 railroad stocks	
July 23, 1957	95.26
July 24, 1956	105.89
Carloadings revenue freight	
Twenty-eight weeks, 1957	19,068,835
Twenty-eight weeks, 1956	20,027,331
Average daily freight car surplus	
Wk. ended July 20, 1957	15,703
Wk. ended July 21, 1956	27,796
Average daily freight car shortage	
Wk. ended July 20, 1957	1,730
Wk. ended July 21, 1956	3,157
Freight cars on order	
July 1, 1957	91,810
July 1, 1956	129,409
Freight cars delivered	
Six months, 1957	51,411
Six months, 1956	33,189

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The Action Page—Turning ideas into profitsp.50

Three basic terms are examined; a trio of principles is produced. Rail rates should attract "heavy-loading" commodities; high-cost service warrants high-scale rates; trim a shipper's "incidental expense" and, in effect, you offer him a lower price.

Short and Significant

Another express-rate increase . . .

is proposed by the Railway Express Agency. It seeks an advance of 15%, with some exceptions, in a petition filed last week with the ICC. Latest express rate hike, which became effective this month, was the eastern-territory increase of about 10.6%. The 15% now proposed would apply nationwide.

LOOK! A price cut . . .

Diesel fuel prices in the east dropped .4 of a cent per gallon, following comparable reduction in midwest. Cost to railroads was trimmed to approximate level that prevailed before general price boost in mid-January. Slash is reported result of distillate oversupply. Hard to say how long prices will hold firm.

General Motors' experimental 'Aerotrain' . . .

is being tested in Canada for the first time over lines of the Canadian National. CNR is testing the lightweight streamliner as part of its program of keeping abreast of new railway developments and acquainting its engineers and operating officers with performance qualities of new passenger equipment under Canadian conditions.

Latest union to get an AFL-CIO charter . . .

is the American Railway Supervisors Association. The ARSA, formed in 1934 as an independent organization, is the 141st AFL-CIO affiliate, according to union officers. Its membership consists of some 8,000 mechanical foremen, roadmasters, bridge and signal supervisors and technicians.

Suit against the BRT . . .

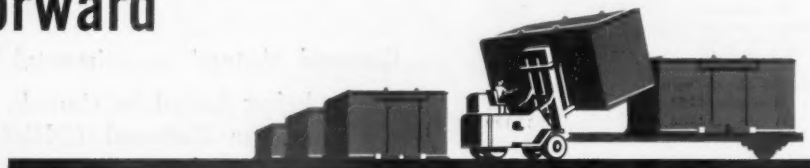
for \$8,000,000 has been filed in Baltimore Federal Court by 27 former Baltimore & Ohio employees who charge the trainmen's union "maliciously" and "without justification" violated their rights under the Railway Labor Act by insisting that the B&O fire them. The 27, employees of long standing, reportedly had not complied with terms of a union shop agreement.

More microwave for Santa Fe . . .

Engineering on a system between Kansas City and Topeka, Kan., is now under way. This is to be part of a main-line system ultimately linking Chicago and Los Angeles via microwave.

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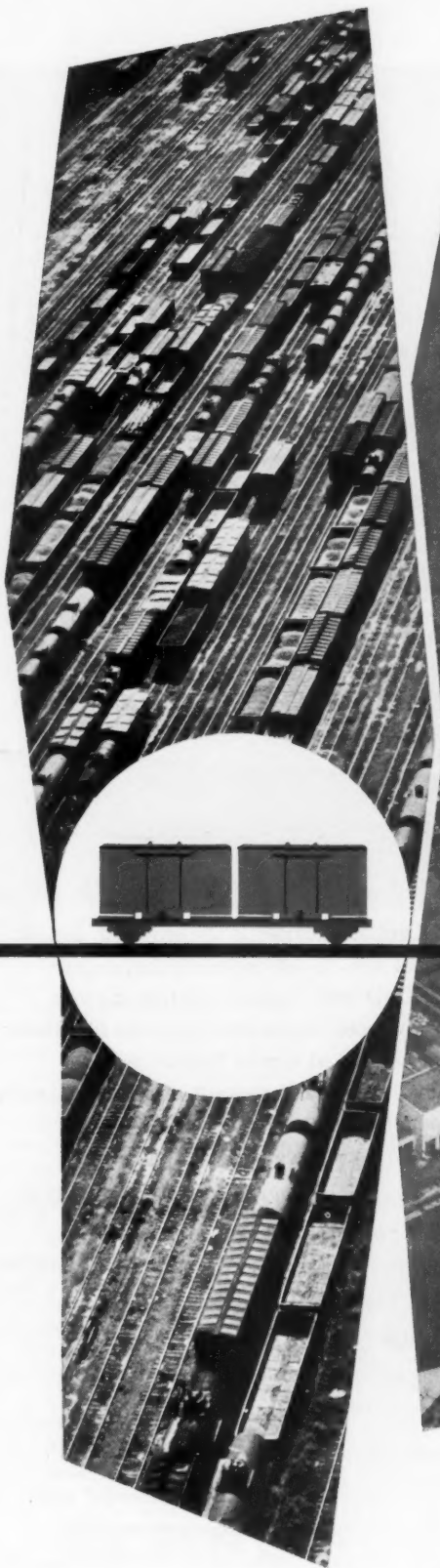


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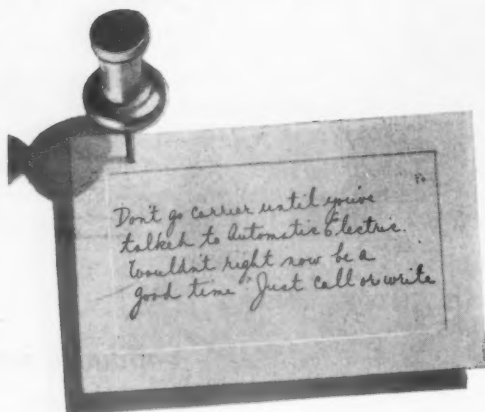
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Federal Equipment Financing Urged

Plan supported by eastern railroads is presented by PRR's Symes to House Committee on Interstate and Foreign Commerce.

A self-supporting federal agency to lease railroad rolling stock to the railroad industry was proposed to Congress last week by President James M. Symes of the Pennsylvania, who spoke for eastern railroads generally.

The proposal was made after Mr. Symes concluded testimony in opposition to so-called penalty per-diem bills which would authorize the Interstate Commerce Commission to put a car-ownership-incentive factor into the per diem rate.

The per-diem bills were opposed also by the Association of American Railroads, which was represented by its general attorney, Harry J. Breithaupt, Jr., and Chairman A. H. Gass of the Car Service Division; and by President J. M. Hood of the American Short Line Railroad Association. They were supported by the commission and by a group of 14 roads which were represented at the hearing by Eldon Martin, vice-president and general counsel of the Burlington.

Mr. Symes said implementation of his plan would result in "immediately providing new locomotives, freight and passenger cars which the nation requires for peacetime progress and national defense."

The plan would be somewhat like the leasing arrangement offered several years ago by the Equitable Life Assurance Society and used by a few roads, including the PRR which thus provided itself with 10,000 freight cars.

The PRR president suggested that the proposed new government agency might be known as the Railway Equipment Agency. It would be provided with initial capital of \$500,000,000, and would be authorized to borrow up to \$2,000,000,000.

Railroads could apply to the agency for long-term net leases for equipment needed, with a fixed term of lease for each type of equipment, based on its economic life. Rentals would be set to amortize, during the term of the lease, the complete cost of the equipment—less estimated scrap value at prices prevailing at the time of the lease, plus an interest factor one-fourth of one per cent above the estimated cost of money to the government agency. While the agency would retain title to the equipment, all repairs would be the responsibility of the leasing railroad.

When a lease expired, the government

agency responsible for stockpiling strategic materials for national defense would have the option of buying any equipment thus freed from the equipment agency. What was not purchased for stockpiling would be sold by the equipment agency or scrapped.

At the congressional hearing and at a press conference he held afterward, Mr. Symes emphasized that the plan would embody the principle that users of government-supplied facilities should pay the full cost of such facilities. He contrasted such a setup with the government subsidies now enjoyed by railroad competitors.

In response to other questions, Mr. Symes said he would have no objection to making the proposed agency's facilities available to airlines and truckers—so long as the principle of reimbursing the government in full were preserved. The PRR president rejected suggestions that the plan

might be a first step toward government ownership of railroads. On the contrary, he thinks it would be a first step toward avoiding government ownership.

"Under present conditions," he explained, "railroads simply do not have the resources to buy the large amounts of equipment needed. And even if they did they could not find takers for that amount of equipment trust obligations in the present market. During the next 10 years the railroads need to buy on the average two or three times as much equipment as they have bought in the last 10 years."

"If the railroads are to meet the challenge of the future, some means must be found for them to triple their equipment purchases. 'Rail Cars for Progress and Defense' plan is a simple and practical answer and would work out to the advantage of all concerned—the government, American industry, and the general public,



EJ&E Capitalizes on a 'Built-in' Billboard

New paint job on Sheridan Road overpass in North Chicago gave Elgin, Joliet & Eastern engineering department chance to do this promotional job where it's apt to do a lot of good. "Route freight

up here. Keep highways clear" slogan proclaims under road's initials. Idea of getting message of railroad services before public via highway span displays has caught on on other roads, too.

as well as to the railroads themselves."

If a substantial part of the railroads' equipment program could be financed under the plan, Mr. Symes suggested that much of the capital now consumed in equipment financing would be freed for investment in other improvements such as "push-button" yards and centralized traffic control. "Then we'll see the railroads again as a growth industry," he added.

Representative Wolverton, Republican of New Jersey, who is the House committee's ranking minority member and former chairman, was "greatly impressed" with the plan. He called it important enough to claim the attention of the committee, and he expressed hope that it would be embodied in proposed legislation.

Representative Hale, Republican of Maine, said he was "deeply interested," while Representative Springer, Republican of Illinois, said he was bothered by the thought of injecting such a plan into the free enterprise system. Mr. Symes said the railroad borrowings from the former Reconstruction Finance Corporation were not different in principle. He agreed with a suggestion from Representative Younger, Republican of California, that a govern-

ment guarantee of equipment obligations might serve the same purpose as the leasing plan.

At his press conference, Mr. Symes said he does not think private enterprise could do the job. He explained that the real problem was not the cost of money, but to get the amount needed. He put the amount needed at about \$1,200,000,000 a year, including about \$1,000,000,000 for cars and \$200,000,000 for locomotives.

He did not think a nationwide pool of railroad credit could be arranged, because of the natural reluctance of prosperous roads to accept the higher costs which financing through the pool would entail for them. Under his proposal, Mr. Symes pointed out, each road would be free to participate in the leasing arrangement or do its own equipment financing.

While he spoke for 34 eastern roads, he knew of no railroads which opposed the plan—although some of them would not become its supporters. Asked specifically about the Lackawanna, he said he understood that road would not support the plan but would not oppose it.

Under the plan, as Mr. Symes explained it, the ordering of cars would go on pretty

much like it does now. They would be ordered according to specifications of the railroads which had executed leases for the economic life of the equipment. There would be no "pool" of government-owned cars available for rental on short term. In comparing his proposal to the Equitable arrangement, he noted that the Bureau of Internal Revenue has raised tax questions as to the latter which would not be involved if the lessor were a government agency.

Mr. Symes' opinion as to reasonable economic lives, and thus terms of the leases, was 20 years for freight cars, 15 years for diesel locomotives, and 10 years for passenger cars.

Asked what he thought of the House committee's reaction, Mr. Symes replied that he was gratified to note that the committee members showed "considerable interest," but he had no guess as to how long it would take to get the needed legislation through Congress. If such legislation were enacted, he thinks the plan would move along quickly, and he doesn't think materials allocations would be required to maintain the equipment programs that would result.

CofGa Control Opens SE to Frisco

Hungerford anticipates growth matching industrial buildup in Georgia and Alabama; IC plans "strong appeal"; SAL course uncertain.

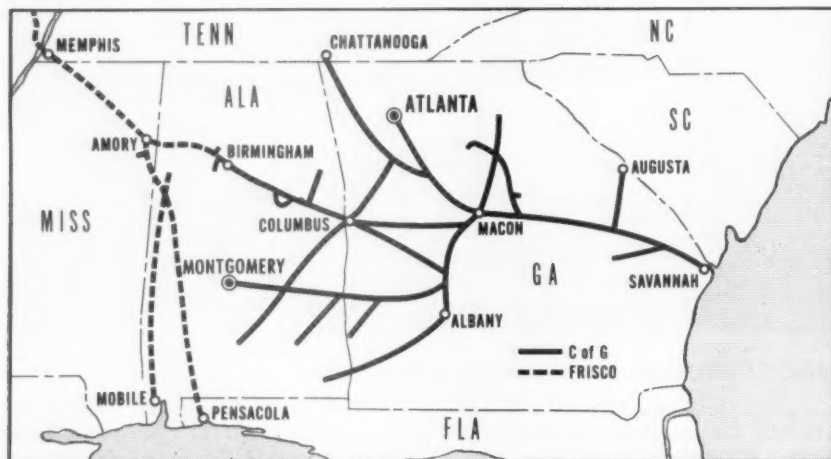
The Interstate Commerce Commission has authorized the Frisco to acquire direct control of the Central of Georgia through ownership of capital stock.

The commission simultaneously rejected requests of the Illinois Central and Seaboard Air Line for inclusion in the control transaction on an equal basis with Frisco.

Clark Hungerford, president of the

Frisco, voiced gratification with the decision, adding that the ruling on the Seaboard and IC applications is "sound."

"We believe the decision will go far toward clearing the way for Frisco and Central of Georgia to proceed with plans for improving service in the southeast and southwest to meet the continuing expansion of industry."



DIRECT ACCESS to key Alabama-Georgia cities is set for Frisco in CofGa link.

"Our position in this case," W. E. Dillard, president of the CofGa, told Railway Age, is that "no competing line should participate in control of Central. Nor should any railroad be granted trackage rights over our lines. We also oppose three-party control through trustee stock as being destructive of incentive to promote Central's best interests.

"On the other hand, we believe control by a non-competitive railroad interested in continued development of traffic for movement over our lines will solve the difficulties incident to speculative ownership without damage to Central's ability to serve the public. Our position . . . is fully sustained by the Division 4 report."

"A strong appeal to the [full] commission" will be made, however, by the IC. Wayne A. Johnston, president of this road, told Railway Age "we are keenly disappointed" in the outcome of the case.

"Aside from the question of stock control without prior authorization," he declared, "we earnestly believe independence or joint control is best for the Central of Georgia and its area."

From SAL President John W. Smith came word that his road is still considering the ICC order and has "reached no decision as to possible future action" on its part.

Before it took the case to the commission in December 1955 Frisco had acquired 47.2% of the CofGa capital stock, and it now owns 64%. These holdings have been deposited with a trustee, but the commission nevertheless said that

"sometime in 1955, Frisco acquired the power to exercise control and management of Central without securing the required authorization from us and it thereby violated" the Interstate Commerce Act.

Creation of voting trusts as a means of satisfying pertinent provisions of the act "cannot be effective for that purpose until we are satisfied that the trusts constitute an actual divestiture of control," the commission also said. It added, however, that consideration of the effectiveness of Frisco's trust arrangement "would serve no useful purpose" in view of its favorable finding on the control proposal. The report went on to say that Frisco's "violation of the act, while not to be condoned, is not necessarily a bar" to approval of the acquisition application.

The report in Finance Docket No. 19159 was by the commission's Division 4, and it may be appealed to the entire commission. The proposed report in the case recommended inclusion of IC and Seaboard on equal bases with Frisco. For some time prior to 1948, when it was reorganized, Central was controlled by IC. The latter's investment was wiped out in the revamp plan.

Central operates directly or through subsidiaries approximately 1,800 miles of line in Alabama and Georgia and extending to Chattanooga, Tenn. It is principally a freight carrier, and about 90% of its tonnage is interchanged with other railroads. Its only connection with the Frisco is at Birmingham, Ala. (see map), but its 1955 interchange with that road amounted to more than 52,000 cars.

Frisco operates 5,100 miles of road in nine states. Its stated purpose in acquiring Central is to (1) protect and develop its interchange traffic with that road; (2) assure its participation in the industrial development now taking place in the Southeast; (3) accommodate traffic moving from the territory it serves through the port of Savannah, Ga.

Frisco's latest annual report showed that its holdings of Central had cost it an average of \$55.62 per share for the common, of which it held 211,497 shares, and \$81.91 per share for the preferred, of which it held 106,992 shares. Total cost was put at \$20,525,965.

The commission's favorable action on the control proposal is conditioned upon Frisco's agreement to purchase remaining shares at \$56 for common and \$86 for preferred. This condition drew a dissenting-in-part expression from Division 4's chairman—Commissioner Mitchell.

He found "no justification" for the majority's assertion that such a requirement is "in the public interest." The stock, Mr. Mitchell added, "is listed and if the minority desire to sell they can do so through the facilities of the stock market."

Other conditions imposed are the usual ones for the protection of employees who might be affected, and requirements that Central, under Frisco control, shall keep open all existing routes. The IC and Seaboard proposal that they be included in the control transaction was opposed by



RR Traffic Managers Swap Notes at Seminar

Contrasting problems and techniques in similar jobs are discussed by E. C. Ordway (center), freight traffic manager, northern territory, Southern Pacific, and W. K. Chapman (right), freight traffic manager, Pittsburgh region, Pennsylv-

nia, during Columbia University's Executive Program in Business Administration this month. C. E. Summer, Jr., (left), assistant to program director, helped encourage such exchanges during semi-annual course at Harriman, N.Y.

other intervening railroads — Atlantic Coast Line; Chicago & Eastern Illinois; Gulf, Mobile & Ohio; Louisville & Nashville; and Southern. It was also opposed by the public service commissions of Alabama and Georgia which supported the Frisco's application.

"In our opinion," the ICC said, "the proposal for multiple control of Central under the competitive conditions involved

therein, would result in a conflict of interest which inevitably would lead to a stalemate of policy, solicitation of traffic, physical improvements to the property and industrial development. The competitors would be more interested in protecting their own traffic with the Central than in general improvement of Central's services to the public or of transportation conditions generally."

Taxes Seen Booming Private Haulage

Not just buy-and-sell truck operations but "short-sighted governmental taxing policies" also have stimulated the growth of private carriage, ICC Chairman Owen Clarke told an American Bar Association division meeting at New York City.

Singling out transportation excise levies for particular criticism, Mr. Clarke charged that state and local as well as federal taxes have handicapped common carriers.

He said that the chance to save 3% freight tax in transport costs "has no little appeal to astute businessmen. Consequently, a great many companies today are purchasing their own trucks and providing their own transportation to secure that saving."

Admitting that some buy-and-sell operations by private carriers are legitimate, Mr. Clarke declared that in other cases "the real purpose is the furnishing of 'bootleg' transportation at sub-standard rates."

He blamed "statutory deficiencies" and said that Congress must "spell out clearly

and concisely that anyone who purchases, transports, and sells property for the purpose of fostering highway transportation business" should be called a common carrier.

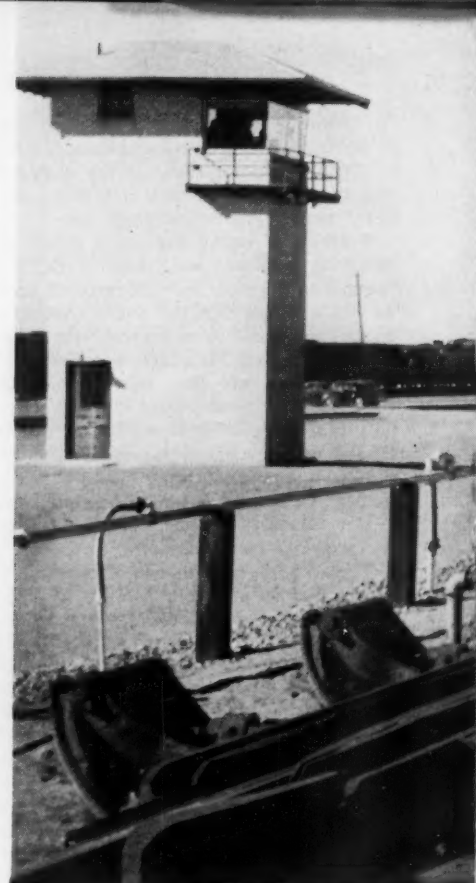
Redefinition of agricultural exemptions also was urged by the commission chairman. He warned that if frozen or canned fruits and vegetables are brought within the scope of a recent Supreme Court decision exempting processed foods which retain substantially their initial form, the result will hurt regulated carriers.

Mr. Clarke welcomed an announced investigation of administrative agencies by a House committee, saying he thinks such a probe will increase confidence in the agencies.

However, he criticized the Bar Association's proposed code of administrative procedure. This will so magnify delays and promote litigation and dilatory tactics, he said, that today's conditions will appear Utopian by contrast.

(More News on page 40)

AS EACH CAR comes down the incline and through the switches and turnouts it automatically sets up controls for the switches and retarders ahead of it.



1. Here's what's happening

Automatic control for power switches and retarders in classification yards has gone through a rapid series of developments in recent years. On the basis of proved performance automatic control systems should now be considered an economic must. Not only is this true for new gravity yards planned and under construction; it also applies to the more than 50 yards in which retarders are now controlled manually, as well as several sizable gravity yards where classification is still done by car riders and switch tenders.

Automation Takes Command

An important reason for installing automatic control for retarders is to reduce damage to lading and cars. Freight claim payments for 1956, including those pending at the end of the year, totaled \$125,953,776. In a recent discussion of this subject, R. S. May, vice-president, Association of American Railroads, pointed out that "continued improvement is needed in our existing yard facilities, as a means of minimizing our most serious cause factor, namely, rough handling of cars. The value of the electronically operated yard facility is recognized as an important step in the control and elimination of excessive over-speed impacts."

In yards where retarders are controlled manually, each operator needs a "catalog" memory of the characteristics of the route to each track, and, as each cut comes toward him, he must make an "educated guess" of its speed and how it will roll after he turns it loose on its classification track. However, too many factors are "unknown," and therefore even the best of operators, through no fault of their own, release some cars too fast or too slow.

The fast ones cause damage to cars and lading when they couple with cars already standing at the far end of the track. The slow ones stop short. Then the next car may be released at a higher than normal

speed so it will "bang" into the stalled car and drive it along. If this fails, humping is stopped to bring the trimmer engine to push cars down on the classification track. To avoid criticisms for such delays, the human tendency is to let the cars out of the retarders fast enough to be sure that they do not stop short. This is especially true when "pressure is on" to get trains out on schedule.

How Much Car Damage?

In 1956 the payments for loss and damage to freight on one railroad alone were nearly \$5,000,000, the average being about \$4,918,600 for nine years, 1948 to 1956. On this road, much of the classification work is done in two yards which have been equipped with manually controlled power switches and retarders for about nine years. Based on studies by officers of this railroad, a decision was made to install automatic controls in one of these yards, the primary objective being to reduce damage to lading to the extent of several hundred thousand dollars annually, which will pay a good return on the investment.

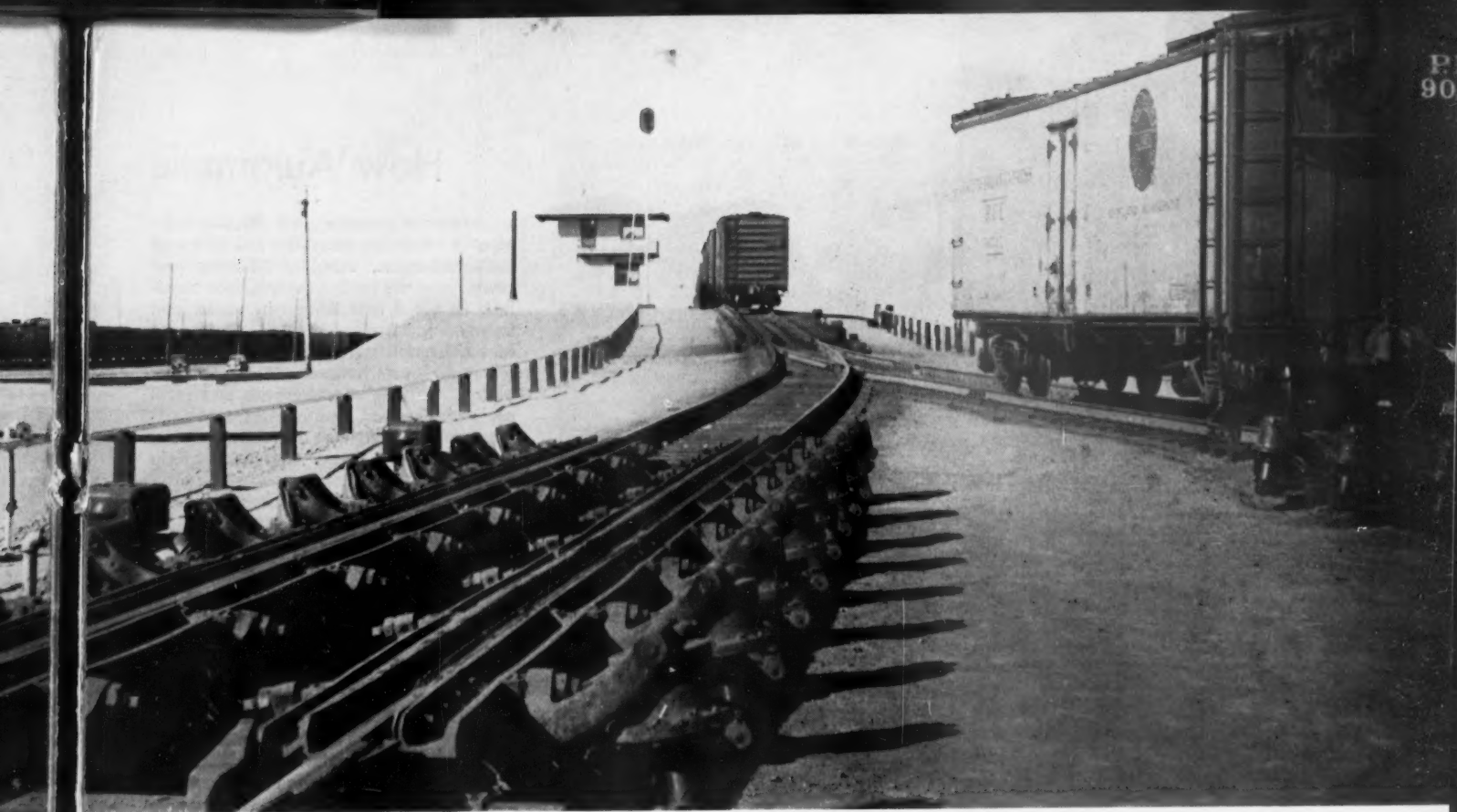
In one 50-track classification yard equipped with manually controlled power switches and retarders, an intensified campaign was conducted to reduce dam-

age to cars and lading. Careful records were kept. In the third year of this campaign, 980 cars were damaged. In the next year this was reduced to 789 cars, requiring immediate repairs totaling about \$9,157. Car damage in a typical month included 4 broken couplers, 9 cars off center, 4 train lines broken, 4 cars with loads shifted including cars with ends or sides bulged; 5 doors damaged and 4 miscellaneous. Here is an instance where every man involved—retarder operators, yardmasters, and management—were concentrating to their utmost to reduce damage, but nevertheless considerable damage did occur. Now arrangements are being made to install automatic control for the retarders and switches in this yard.

Yard Car Time Costs

Because a large yard with automatic control can be operated with one-third the towermen required with manual controls, it becomes practicable, from the standpoint of reduced operating costs, to operate such a yard "round the clock" at maximum humping capacity. Cars can be classified promptly on arrival, without delay in the receiving yard. This saves car hours and improves service to shippers.

One yard, which classifies 2,000 to 3,200 cars every 24 hours, saves an aver-



P
90

in Modern Classification Yards

age of 5 hours for each car compared with the previous old yards.

Another modern yard with automatic controls, when only 40 tracks were in service, saved about \$5,000 per week in per diem charges, through reduced in-yard delays.

At one yard which in a recent week humped an average of about 1,064 cars daily westbound, and 1,317 cars eastbound, records are being kept of the elapsed car time from arrival in the receiving yard, until leaving from the departure yard. The average for one week was 10.9 hours for westbound cars and 15 hours for eastbound cars. Using an hourly per diem factor of 11.5 cents, the car time for eastbound cars totaled an average of \$1,841 per day, and for westbound cars, \$1,459 daily.

This yard is now operated by switch tenders and car riders. If the installation of power switches and retarders, with fully automatic control, would reduce the total yard time for cars by 50 per cent, the average saving on this item alone would be more than \$600,000 annually.

In yards where power switches and retarders are now controlled manually the installation of automatic controls will effect a reduction in wages. In a yard with 40 to 48 tracks, using manual control, a typical arrangement includes three towers

for control of power switches and retarders. Operators are on duty all the time in each tower, thus requiring a total of 9 men. Some yards with 55 to 80 tracks require four towers, with a control operator in each.

Reduced Operating Expenses

In contrast, with complete automatic control of power switches and retarders, only one tower, with only one man, a monitor-operator, is required. As applying to the retardation system, this man adjusts modification settings to compensate for weather and rail conditions and other factors which uniformly affect rollability. The speed at which cars are released from the group retarders can be increased or decreased in small amounts totaling about 2 mph. The monitor operator watches car movements carefully and, if anything goes wrong, he can take action to stop humping. When the trimmer engine is working in the yard, the monitor-operator controls the switches and retarders manually.

Thus, in a fully automatic yard of up

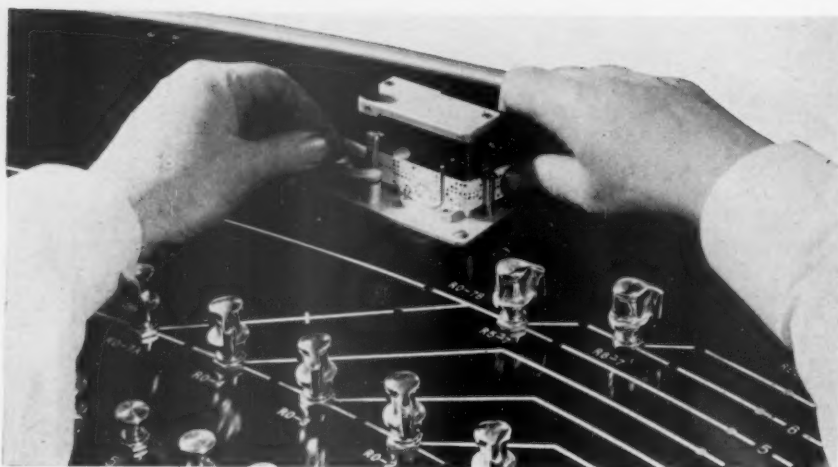
to 65 or more tracks, one control tower with one monitor-operator is required, compared with three towers and three men where manual control is in service. The annual wages for a retarder operator, round the clock every day, including vacations, pensions, insurance, etc., totals about \$25,900 annually. The addition of automatic controls for switches and retarders in a manually controlled yard will reduce the number of towers from three to one; six operators' positions can be eliminated and wage costs reduced by \$155,400 annually.

Car Riders and Switchtenders

A gravity classification yard, now operated by the old-time method of car riders and switchtenders, handles an average of about 1,000 cars daily. The base wage rate, not figuring vacations, pensions, insurance, etc., is \$2.39 per hour for switchtenders, and \$2.56 for yard helpers (car riders).

These labor costs total about \$368,000 annually. This is approximately 95 cents per car humped.

2. How Automation Works ►



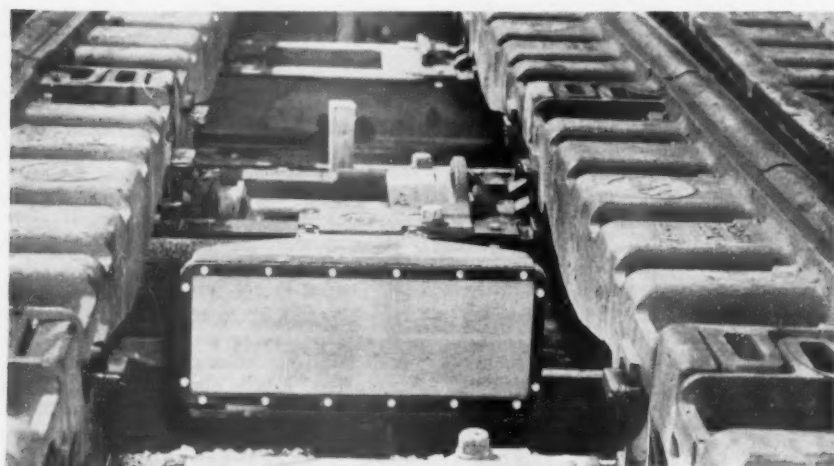
Where Is the Car Going?

Prepunched tape is fed into telegraph printing transceiver as cars are humped. Switching controls are set automatically.



How Much Does It Weigh?

The weight of each car is classified as it passes over the weigh rail. Retardation is adjusted to fit each car or cut.



How Fast Does It Travel?

Radar units at the retarder measure the speed at which a car travels. Computers instantly figure the proper release speed.

How Automatic

In automatic systems, the characteristics of each route are measured and given an individual value. Also, as each car proceeds down the incline, its weight is classified; its speed is measured by radar; and its rollability is measured in terms of rate of acceleration on constant known gradients, tangent and curved. Voltage values of these various characteristics and measurements are fed into an electronic computer which automatically calculates the desired leaving speed from the group retarder.

Although two loaded cars may weigh about the same, one may be a "hard roller" and the other an "easy roller," or just an "average roller." Empty or lightly loaded cars perform differently than loads. In automatic control systems, therefore, the resistance which each car exerts against the force of gravity is measured by determining the acceleration when rolling down a section of track which is on a known well-maintained constant gradient in approach to the master retarder. Special track circuits, radar and timing device are used. This acceleration on tangent track indicates how the car will roll on tangent track on its respective classification track. Similarly the rolling characteristics of each car on curved track can be determined on curved sections of track.

Weight, which is needed to select leaving speeds from the master retarder, is classified by an inert device known as a weigh rail, located in approach to the master retarder. Each car is classified as heavy, medium or light.

In most yards each group retarder serves about 6 to 10 tracks. From the retarder to the tangent point, on each of the tracks in a group, the grades and curves through switches and turnouts are different. To secure data, a number of cars, both empty and loaded, are routed down the hump and through this retarder to each of the tracks in the group. By obtaining rolling resistance measurements of each car between the master and group retarders, and again between the group retarder and point of tangency, a correlation is established between curved track rolling resistance measurement and the characteristics of each route beyond the group retarder. Electric values are stored, and when a route is set up for a car to track 6, for example, the corresponding route resistance value is fed into the computer, along with values for the other factors discussed above.

To reduce damage to a minimum, an ideal is to release each car from its final group retarder at a proper speed so that it will negotiate the curves in the turnouts to tangent on its classification track, and then roll on down to couple with the first car then standing on that track at a speed of 4 mph or less.

In automatically controlled projects completed prior to 1957, one objective was to provide a non-accelerating descend-

Control Works

ing grade on the classification tracks, so that if a good rolling car enters the tangent on its class track at approximately 4 mph, it proceeds without increasing its speed until it couples with the first car then standing on the track. Thus, regardless of the distance from the turnout to the first standing car, the speed is within the range to prevent damage to cars and lading. In this operation the speed at which each car is released from the group retarder is varied, depending on car rollability.

An important factor in the success of this operation is to install and maintain the class tracks at exact gradient, as well as surface and alignment. As an aid, some roads install deeply set steel grade stakes.

The per cent of non-accelerating grade depends on the preponderance of traffic—coal, merchandise, etc., as well as other factors such as prevailing winds and extreme temperatures. In general, however, through the 25 years in which yards have been built for use of retarders, the design for grades in class tracks has gradually been reduced from 0.3 per cent, to 0.2 per cent, to 0.15 per cent and to 0.12 per cent. A forward look predicts that, with equipment now available to measure weights and rollability, perhaps coupling speeds can now be controlled better if the class tracks are built at level grade.

In order that automatic controls may be applied most effectively the switches and retarders should be located according to a basic plan, with adequate track lengths and proper grades where required. This plan should be used in the design of all new yards or those being rebuilt. Automatic controls can be applied now or later with no track changes.

The Missing Link

In manually controlled yards, if towers are located properly and yard lighting is effective, each towerman can see where cars stop on each of the classification tracks under his control. Accordingly, the operator can control the group retarder to let the car out at a faster speed if the track is empty, or at a lower speed if the car has only a short distance to go.

In automatic controls, placed in full service with manufactured equipment prior to late 1956, information concerning location of last car that had entered each track was a "missing link" in automatic phases of the controls.

This requirement is being, or can be, met in several ways. In some installations a counting device automatically counts each car as it enters each classification track, thereby controlling an indicator showing the car capacity of the portion of the track still empty. This factor also is given a value to be included in the calculation made by the electronic computer. The monitor-operator must watch to see if cars stop short on any track, and, if so, he operates a key switch to adjust the

value and indicator according to the length of empty track short of the car. Also, when cars are pulled out the departure end of tracks the monitor-operator makes adjustments concerning the length of empty track.

The necessity for the monitor-operator to adjust the empty track values and indicators, can be eliminated if a railroad sees fit to install a sufficient number of short track circuits, treadles, or impulse units. One road is using a special voltage fed from the clearance point on each track to the shunt through the wheels and axle of the first car, indicating in feet or voltage the approximate length of empty track from clearance to the first car on a track.

In automatic controls for switches in classification yards, first installed in 1950, the control panel includes a push button corresponding with each classification track. To route a car to track 10, for example, pushbutton No. 10 is pushed.

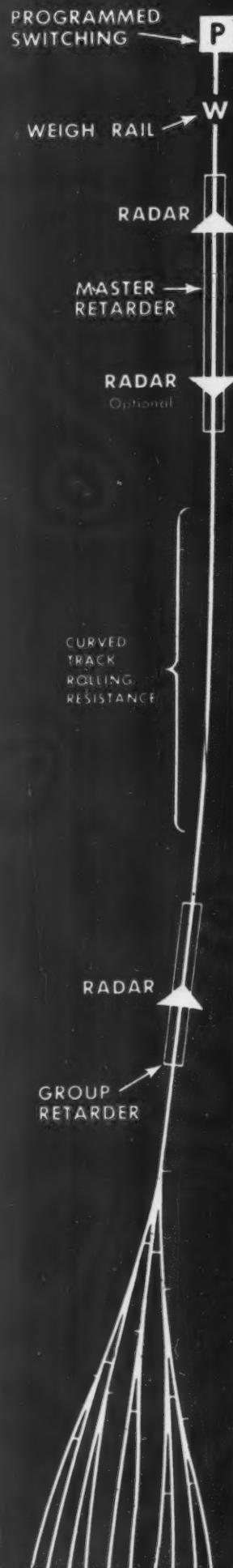
In some manual control yards, these automatic switch control buttons are on the same panel with the retarder controls and are operated by the same man who controls the retarders. In other yards the automatic switch control panel is in a small cabin at or near the hump. At most of these yards the buttons are operated by the foreman (otherwise known as conductor) of the crew that is then pushing cars over the hump. In a few yards, an extra man with rank as a conductor is assigned to operate switch control buttons.

About two years ago one railroad developed and installed devices by means of which the equivalent of the switch list was punched in a paper tape somewhat the same as used in printing telegraph. As a string of cars is pushed over the hump, the tape is fed, step-by-step, through a telegraph printing transceiver which sets up the automatic controls for switches.

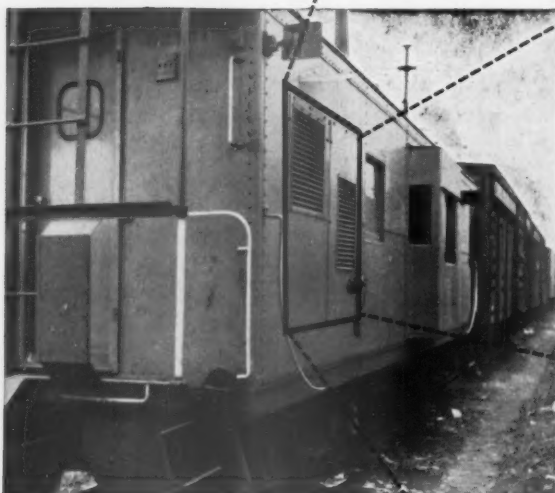
On roads that use punched cards in reporting machine accounting systems, these cards, instead of tape, can be used to control the automatic switching. One advantage is that cards can quickly be pulled or inserted according to last minute changes due to re-consignments, bad order, etc. These operations, using either tape or punched cards, are known as programmed switching control, in which no person is required to push buttons to initiate individual routes for cars or cuts being pushed over the hump.

Automatic cab signaling and radio or carrier telephone communication—to and from the cabs of the hump engine and trimmer engine—are a necessary part of modern classification yard systems.

Similar inductive carrier equipment has been installed in a classification yard on one road to control an unattended mine-type battery-propelled electric locomotive used as a pusher. Normally this pusher is "parked" on a spur on the incline down the hump toward the yard. If trimming is necessary, the humping is stopped, then by remote "wireless" control from the tower the unattended electric pusher operates to push cars on the classification tracks, and then return to its spur.



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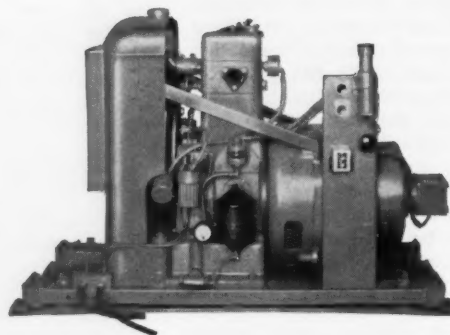
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Story at the source



GRAND PRESIDENT George M. Harrison of the Brotherhood of Railway Clerks outlines union policy on electronic computers. His views may lead to . . .

A Bigger Role for the Clerks?

Background to the interview: Railroads have found that large-scale electronic data processing systems can turn out prodigious amounts of work and turn it out fast. Today, more and more roads acquiring these "giant brains" are using them to speed the flow of paperwork.

The Brotherhood of Railway Clerks stands squarely in the middle of this picture. Because it does, and because the union's policy is important to every road that uses or plans to use electronic computers, Railway Age obtained an exclusive interview with George Harrison, Grand President of the Clerks. Here are Mr. Harrison's statements, exactly as he made them in Cincinnati a few days ago.

Q. Mr. Harrison, when a railroad plans to acquire a so-called "giant brain" which may affect the number or quality of employees, at what point does the Clerks' Brotherhood seek to be consulted?

A. Just as soon as the carrier has determined upon the installation of new machines the Brotherhood should be notified immediately, giving full particulars regarding the work to be mechanized by the new machines and the number of employees and positions to be affected. After that, the carrier and the Brotherhood immediately should begin planning for the transition.

If this is done, plans can be completed and proper agreements reached to be effective when the machines are installed.

Q. Do you find that a railroad always knows, so early, the "full particulars" of

what a new electronic computer will do?

A. They have a good idea from the sales talk. They also must make a fairly complete analysis in seeking purchase approval from the board of directors. After the board gives its approval, that's when we want to be notified.

Q. You want to take part in overall planning, is that right?

A. Yes. These machines call for a lot of advance planning. This involves computer applications—methods, coding, flow charting, etc.—and the conversion from former methods to new methods by putting the work into "machine language."

Q. This means, then, that you see a role in planning by the employees whose work will be affected?

A. Certainly. Remember that a pre-

liminary step to mechanization is a procedure commonly referred to as "programming." Programming is a process of "trial and error." There is no such thing as a perfect programmer. They all have to stop periodically and "de-bug" their program up to that point, then move on a few steps further; and even after the programmers feel they have properly programmed the project, there is still the necessity for parallel runs. Old methods of producing the work are carried on for a period of time while the new method is also being carried on by computerization.

Q. But doesn't this programming job require special training?

A. It is more economical and efficient for the carrier to train its own employees for computer application work. That way, the railroad can meet its obligations under the union agreement respecting the rights and interests of the affected employees.

Q. Who should be selected for this training, and how?

A. The selection of personnel to man and operate the machines must be consistent with the obligations of the parties under the labor agreement. It must consider, among other things, seniority rights,

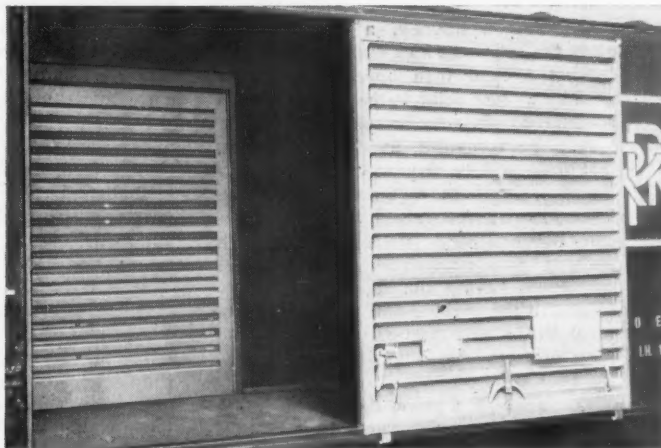
(Continued on page 22)

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THE BRIGHT STAR OF METALS

Story at the source

(Continued from page 19)

fitness and ability, changes in location of employment and conditions of employment. Training is required, too, to prepare employees to take over the actual work of conversion from the old method to the new.

Q. This would seem to imply an agreement, or several, with the railroad to cover these initial planning stages.

A. Once an initial understanding has been reached covering the features I mentioned, further conferences are essential, of course, to consider what phase of the carrier's operation it first desires to apply to the computer. At such conferences detailed agreements can be worked out covering all ramifications—the breaking up of established positions, extracting therefrom certain portions of the work to be computerized, documenting same, rebuilding new jobs out of the leavings of the old jobs, establishing proper rates of pay and titles, and other matters like that.

It is also essential, at this early stage, to confer and agree on the composition of the initial force for manning the new mechanized operations. This means establishing rates of pay, titles, assignments, documenting the duties to be performed by each, as well as providing for the advertising of positions, selecting of employees and awarding of the positions and the training of the force which will actually handle the computers and auxiliary equipment. Such forces need to be ready to operate the equipment by the time the computer applications force has the particular project ready to place on the computer.

Q. In other words you want to participate in this whole planning operation so the carrier will be ready to move ahead when the machines are delivered?

A. Yes.

Q. You think all possible adverse effects on employees should be brought into the open early?

A. We think so. Mechanization or automation can result in large reductions in forces, and the impact upon the families and lives of those who lose their jobs, as well as those whose positions are worsened because of being displaced or transferred is tremendous. Conferences should be held, therefore, with employee representatives at the earliest possible stage in order that employees may be apprised of possible adverse effects. This will enable them to plan their personal affairs and obligations to meet the change.

Q. A big change like this could affect an entire community, could it not?

A. Of course. Employees have finan-

cial obligations which affect all phases of business and professional life in the community. The impact of mechanization or automation on society is deep and wide. It certainly warrants the greatest consideration on the part of management in approaching a decision to adopt a computer. When such a decision is made, they should cooperate fully with employee representatives in order that the industry can enjoy the fruits of the new plan of operation with the least possible anxiety and adverse effect upon employees and disturbance to the community.

Seniority and Training

Q. You mentioned, a moment ago, using the railroad's own employees to help convert to and then operate these new machines. Just what is the Brotherhood's position on seniority in such cases?

A. We recognize, as do the carriers, that skills will be required which are different from those required in the past. It is likewise recognized that employees can develop such skills only through training and experience; therefore, the employees having the fitness and ability to absorb the training and take the assignment to the new type of positions should have preference in seniority order.

Q. There is a place, then, for a junior man with superior qualifications—the thing you call "fitness and ability."

A. Within the framework of existing agreements, yes. Experience has proven that the selection of personnel for both programming and machine operation on the basis of seniority, fitness and ability provisions of the union agreements is essential and a definite advantage to the carrier. In applying such selection provision of union agreements, it is mutually beneficial to the carriers and to the employees to have the assignment of employees made by agreement between the parties on the properties. This is true because they both know the experience, education, fitness and ability of the individual employee. Competent persons can be assigned who will be satisfactory employees in the operation.

Q. We have spoken of employee training. In that regard, how can the union initiate, aid in or supplement a carrier training program? You do want to help, do you not?

A. This is a matter the Brotherhood is vitally interested in. Just as soon as it has been definitely determined new machines are to be installed and the Brotherhood has been given full and complete information as suggested earlier, the parties should reach agreement upon a

complete training program. This program, among other things, should provide that an employee bidding or displacing on the machine position will be given necessary training during regular working hours and will be paid the full rate of his existing position.

Severance Arrangements

Q. Let's say a railroad acquires a new machine and it's evident some jobs will be cut off. What severance arrangements will you seek?

A. It is recognized that the new and improved methods of work performance will not only require new skills but will result in a substantial increase in productivity. This increased productivity and new method of work performance will naturally require a lesser number of employees.

In order to cushion the impact of the change from the old to the new machine method, it is our position that reductions in force should be only those brought about by natural attrition—resignations, retirements, etc.

Q. Won't attrition be a slow process?

A. Not at all. Normal attrition is certainly no less than 5% annually. So the simple approach of not filling end positions when there are vacancies will avoid unemployment while the carrier obtains a substantial payroll saving that will increase each year.

Q. What would you suggest as an alternative to attrition?

A. A less desirable plan would be for the particular carrier involved to provide a severance pay or supplemental unemployment benefit that would insure affected employees full pay for a stipulated period of time to be agreed upon with the Brotherhood.

Q. What would you think of a national agreement to cover this whole seniority-and-job-off situation?

A. For more than a quarter of a century the carriers and organizations have been handling and disposing of major issues on a national basis and we can see no good reason why the change to machine operation or automation should not be handled in the same manner. The impact on employees and the gains to a carrier are similar on all railroads and similar treatment and disposition should apply.

While a national agreement could lay down the general terms of procedure and the terms for protection of the employees and the manner in which they would be made whole, it would be necessary in each

case to write an implementing agreement spelling out the manner in which those terms would be applied, just as is provided for in Section 5 of the Agreement of May 1936 (the so-called Washington agreement).

Q. Do you plan to seek such an agreement on a national basis?

A. Well, I doubt there is need for that yet. Not many railroads are involved in these things yet, and I suspect those who are not would be reluctant to give power of attorney for setting up their usual bargaining committees. Things are being worked out locally and our general chairmen are familiar with our policies for doing that.

A Case History

Q. Have railroads been fair and equitable in their approach to the personnel problem in "automation" of clerical work? What have they done wrong specifically, where have they been short-sighted, if they have?

A. In one instance when "Univac" was introduced we were able to obtain an agreement which in a measure, although not fully, provided equitable treatment of the employees directly and adversely affected.

Our chief concern in this instance was the deliberate attempt of the railroad to deprive union employees whose work was to be mechanized of an opportunity to do the work. Management used the unreasonable and fallacious argument that the processes of conversion to mechanization were management functions. People were recruited from the outside to do this work and many of the employees were denied their reasonable rights to perform these functions. Not only did this greatly impair the morale of the work force, it established beyond doubt that machines cannot be programmed to handle the work unless the person doing the programming has the necessary practical knowledge of how railroad work is done and for what purpose it is to be utilized.

Technical training for utilization of the machine is essential, but railroad employees whose work is to be subjected to mechanization should be utilized and trained for this purpose. While we wish to cooperate toward this end, we do intend vigorously to resist the creation of a hoard of "fictitious management payroll titles" to evade obligations under the union agreements. We also feel the employees are entitled to reasonable considerations on such matters as severance pay and supplemental unemployment benefits, reimbursement for any loss on the sale of homes or obligations under leases, ex-

penses occasioned by transfer of residence to another city and the continuation of coverage of the employees and their dependents under the health and welfare agreements.

Q. Was this case typical or was it an exception to what you have found elsewhere?

A. Railroads generally have ignored the rights of the employees and have moved unilaterally in the planning, organizing and executing of mechanization plans.

Generally they have brought in people from outside the industry, sent them to school and trained them in computer application procedures. After these people are brought back to the railroad properties, employees covered by the clerical agreements in the particular department being considered for machine jobs have been required to teach the outsiders the details of their respective jobs in order that such outsiders can document in detail each job and code the work in the computer language. In the main, carriers have resorted to the employment of outsiders to take over the work of conversion to mechanization, not only denying the employees covered by the agreements the right to perform the work so covered, but forcing them out of the industry by such methods.

Q. Obviously, you consider such an approach wrong. But does it work?

A. Such methods have been extremely short-sighted. They ignore the vested rights of the employees and the carriers disregard their contractual obligation to them. Furthermore, such procedures re-

"The Brotherhood and its members do not oppose the introduction of machinery and new methods to perform work, but we are well aware such progress means a loss in total employment for railroad workers. It is this direct adverse effect upon faithful employees that concerns the Brotherhood

"It is more economical and efficient for the carrier to train its own employees for computer application work

"The selection of personnel to man and operate the machines must be consistent with the obligations of the parties under the labor agreement."

sult in considerable unnecessary expenditure of funds of the industry because the outsiders have to be taught how to railroad before being able to perform the functions taught them at the computer schools. All of this expenditure would be unnecessary if the carrier trained its own clerical employees in the computer schools instead of the outsiders.

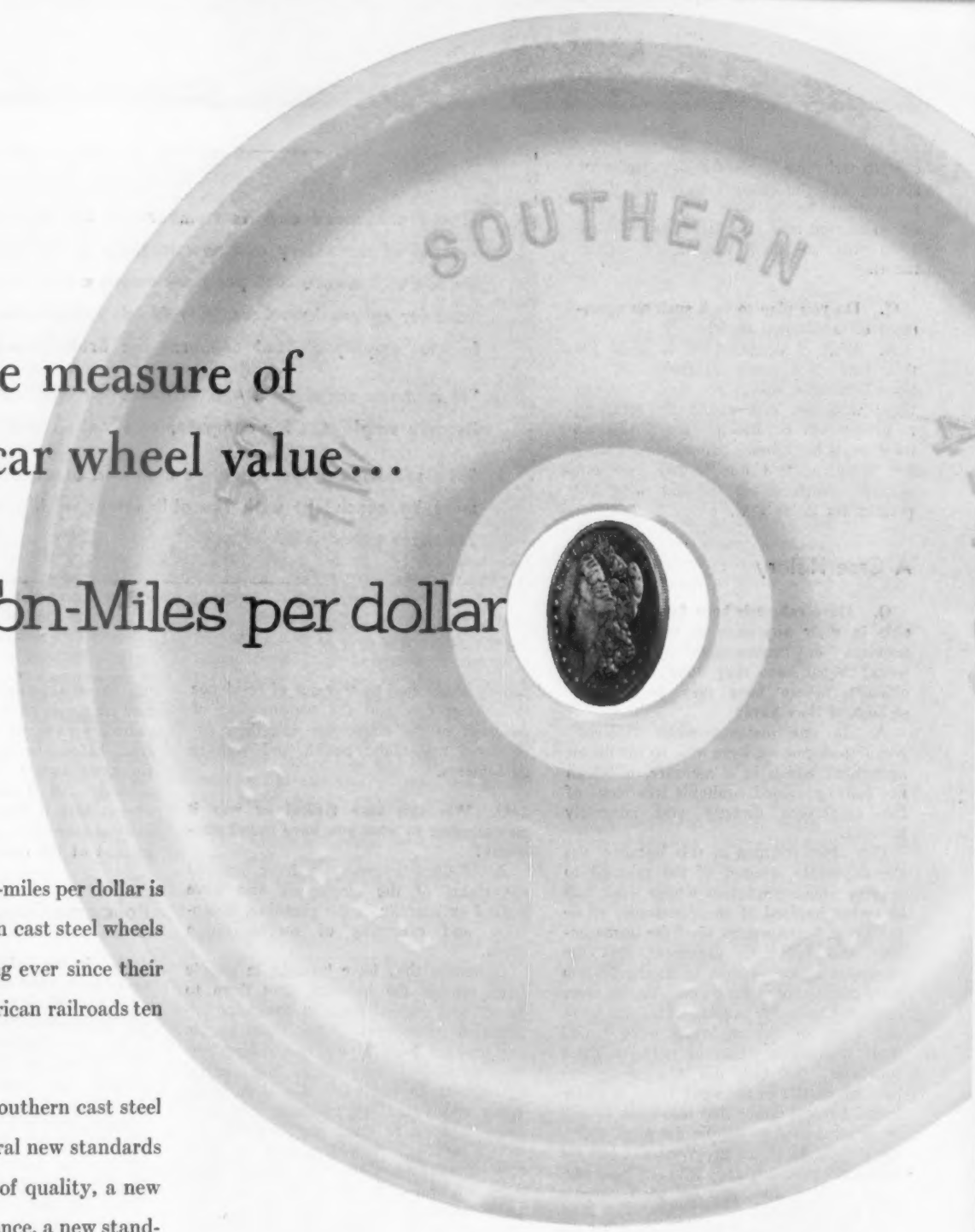
Policy on Computers

Q. In the light of what you have said up to now, your main concern is the effect of machines on the work forces. What is the Brotherhood's position?

A. The Brotherhood and its members do not oppose the introduction of machinery and new methods to perform work, but we are well aware such progress means a loss in total employment for railroad workers. It is this direct adverse effect upon faithful employees that concerns the Brotherhood. Many employees displaced, who are totally unemployed because of the introduction of the new machinery, are too young to retire and too old to obtain other jobs because of the unrealistic maximum age hiring restrictions enforced by many railroads and other industries.

Q. So it is primarily the "human element" that concerns you?

A. Yes. Oftentimes, a necessary requisite to the installation of machines is a concentration at a single point of the work to be mechanized. This confronts employees directly involved with the neces-
(Continued on page 48)



The true measure of
freight car wheel value...

More Ton-Miles per dollar

Delivering more ton-miles per dollar is the job that Southern cast steel wheels have been performing ever since their introduction to American railroads ten years ago.

In these ten years, Southern cast steel wheels have set several new standards . . . a new standard of quality, a new standard of performance, a new standard of *value*.

Value, in the case of freight car wheels, means simply more ton-miles per wheel dollar. Produced in the world's most modern wheel plant, Southern cast steel wheels—with precision machined treads and hubs—consistently roll farther, cost less. The ten-year record proves it!



RAILROAD PRODUCTS DIVISION
530 Fifth Avenue, New York 36, N. Y.

'Champ' Davis' young successor says . . .

'Traffic Volume Is Biggest RR Need'

Next Thursday a young man of 45 will assume the presidency of the 5,300-mile Atlantic Coast Line. He is W. Thomas Rice, who is coming from the 118-mile Richmond, Fredericksburg & Potomac, where he has been president for 2½ years.

On the ACL, Mr. Rice will succeed Champion McDowell ("Champ") Davis, who will retire after 64 years of service with the road—the last 15 of them as its president (*Railway Age*, June 10, p.41). July 1 was Mr. Davis' 78th birthday, and he asked to be relieved. New president of RF&P will be W. P. Marks, Jr., who has been its general counsel.

Mr. Rice is an energetic, sure-footed executive—an enthusiastic railroader who finds the work "most fascinating," and who "wouldn't change a thing" if he were starting his career again. He would advise young men to get into railroading, and he hopes that will be the choice of his son who is now entering college to study engineering.

In his own relatively short railroad career (extending over 23 years with four of them out for military service), Mr. Rice has gained recognition as a student of the industry's problems and one of its more articulate spokesmen. About the time he accepted the ACL's call, he was among those being mentioned for the presidency of the Association of American Railroads under the plan whereby William T. Faricy would become the association's chairman.

The primary railroad need, as Mr. Rice appraises the outlook, is traffic volume. The railroad plant, as he puts it, has "terrific capacity," and could produce "100% more" transportation service with but a "fractional" increase in costs. Because no competitor can touch this mass transportation capacity, he advises that railroads have every reason to be optimistic so long as they are realistic.

In other words, "capacity operation would take care of most everything." And Mr. Rice sees no reason why volume should not come as a result of proper pricing and good service.

He thinks proper pricing is now thwarted by restrictive regulation. Thus he is a vigorous advocate of the rate-freedom program recommended in the report of President Eisenhower's Cabinet Committee on Transport Policy and Organization and embraced by the railroads. That is the program to amend the Interstate Commerce Act's rate-making rule by adding the "three shall-nots," which would end the Interstate Commerce Commission's fair-share-of-the-traffic approach.

Mr. Rice's views on rate freedom are

consistent. He is opposed to repeal of the act's Section 22 which gives regulated carriers the same kind of rate freedom with respect to government traffic that the "shall nots" would afford as to commercial traffic.

Concern Over Rate Hikes

Meanwhile, he entertains some concern about the general-rate-increase approach to which the railroads have been driven in recent years. He fears that some patrons may have been alienated because of the widespread disposition to blame regulated industries for raising their prices, though other industries are often immune from like criticism when they pass increased costs on to their customers. Moreover, he feels that every rate increase, by for-hire carriers, causes shippers to take a new look at the cost of performing their own transportation with relief from the transport tax.

The average citizen, in Mr. Rice's opinion, has "little conception" of the railroads' regulatory and tax problems. So he advises the industry to continue its

"progressive approach" of recent years in the telling of its story to the public, particularly business men. The story, he adds, should be told in logical, dignified fashion—because "griping is the poorest form of public relations."

As to the good-service phase of his prescription, Mr. Rice thinks the greatest problem to be overcome is terminal delay in freight operations. He says the objective should be to move cars through terminals and interchange facilities with expedition like the speed with which they are now moved over the road. And he speaks with experience in yard operations, having spent three years as superintendent of RF&P's Potomac Yard.

Second to service and rates on Mr. Rice's list of railroad problems is the passenger deficit. He thinks there is a place for passenger service because "many people still prefer train travel." Thus, he is confident that the passenger train will not become extinct, but he does hope for the day when management will be free to keep the service in line with the patronage.

(Continued on page 28)



COMING HOME after ACL election, Rice family was welcomed at Richmond by big turnout of RF&P staff.

Only VELAC* is Fully Automatic!

WHAT MAKES a classification yard fully automatic? We believe the following components are essential:

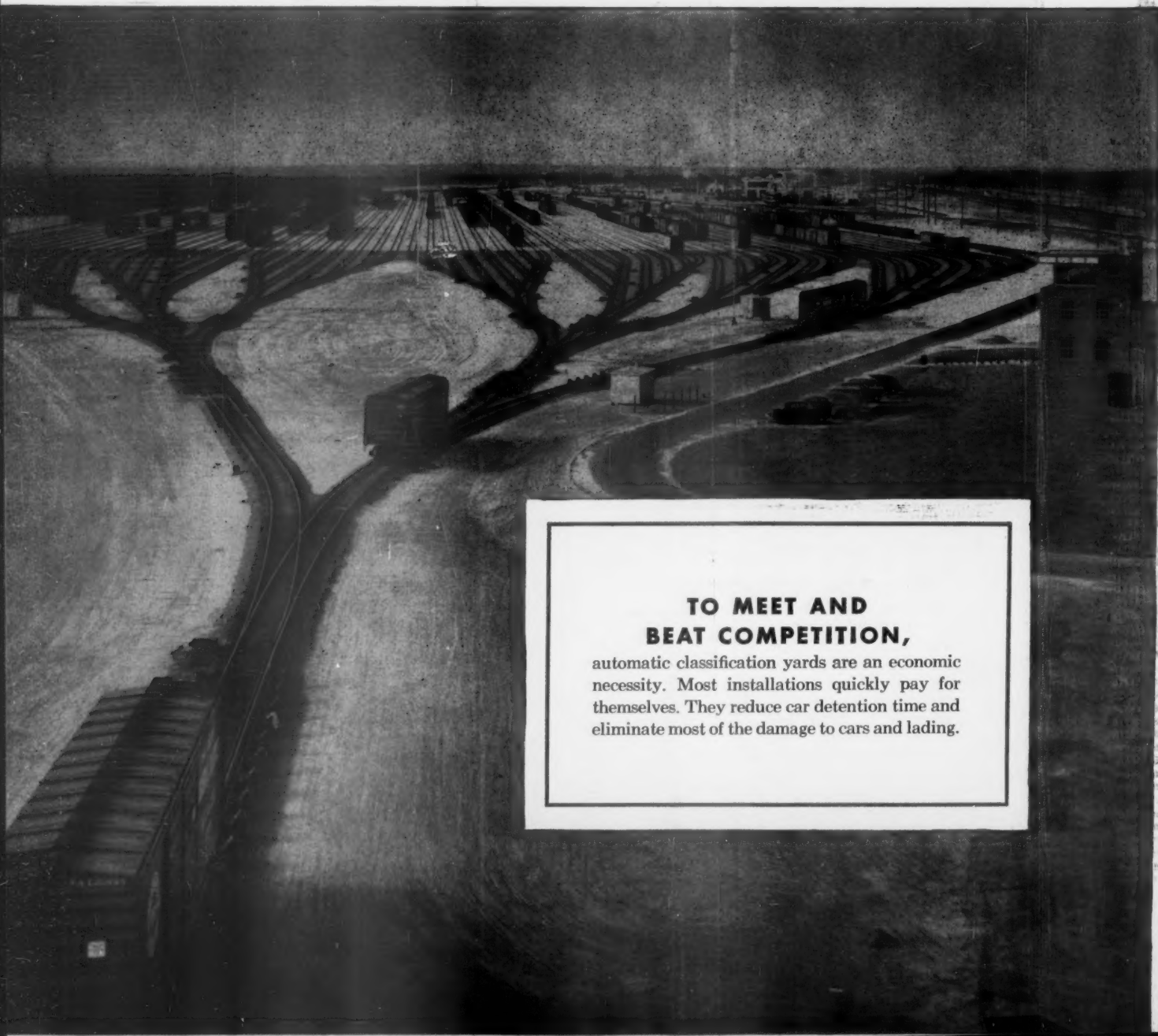
- Programmed switching to permit cut list to be automatically fed into automatic switching system.
- Switch machines that operate quickly.
- Retarders that provide immediate response to changes in braking requirements.
- Automatic Retarder control for precise regulation of car speeds.
- Sensing devices to measure car weight, tangent track rolling resistance, curved track rolling resistance and distance car must travel.
- Electronic computer that instantly evaluates information from sensing devices in order to release each cut of cars for a safe coupling to prevent impact damage.

- A control machine that provides basic operational information necessary for over-all yard coordination with essential finger-tip controls for use when required.

Union Switch & Signal's VELAC Automatic Classification Yard System is the only one that provides all the components necessary for a *fully automatic* yard.

Write or call our nearest office for complete information.

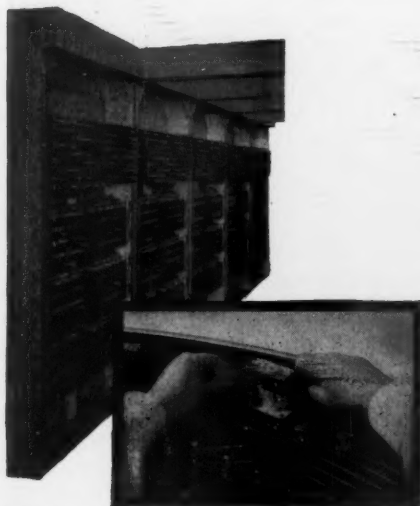
*Trademark



TO MEET AND BEAT COMPETITION,

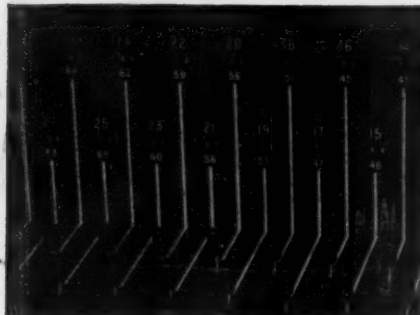
automatic classification yards are an economic necessity. Most installations quickly pay for themselves. They reduce car detention time and eliminate most of the damage to cars and lading.

Classification Yard System



PROGRAMMED SWITCHING

This UNION development permits an operator to classify an entire train with one push of a single button. A perforated tape containing the track destination of each cut is fed into the automatic switching system which sets up the required routes automatically.



CLASSIFICATION TRACK CAR-PACITY

Automatically determines the number of cars on each classification track and transmits this information to the electronic computer. Photo shows CAR-PACITY indicator, showing remaining track capacity as another factor in calculating final leaving speed.



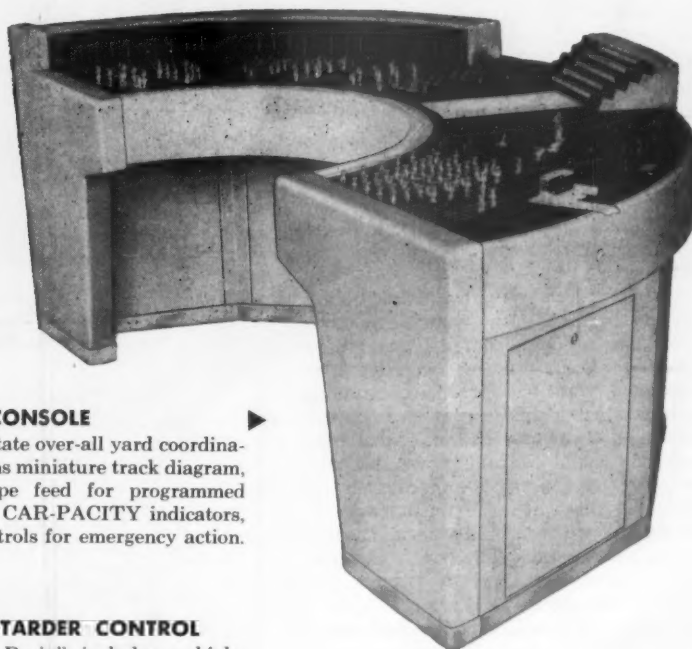
AUTOMATIC SPEED CONTROL

This provides automatic control of retarder pressure to obtain the desired velocities determined by the computer. Photo shows antenna for radar used in VELAC System to continuously measure velocity and acceleration from which rolling characteristics are determined.



WEIGHT CONTROL

Weight information is used to automatically select desired leaving speed and braking pressure of the master retarder. It is also used to preset the final retarders to obtain greater accuracy in leaving speeds.



NEW U-TYPE CONSOLE

Arranged to facilitate over-all yard coordination, panel contains miniature track diagram, indicator and tape feed for programmed switching system, CAR-PACITY indicators, and finger-tip controls for emergency action.

AUTOMATIC RETARDER CONTROL

This "Electronic Brain" includes a high-speed computer of our own design and manufacture. It combines information from the sensing devices with information concerning individual track and external conditions, instantly calculates proper leaving speed, and automatically controls the retarders to assure that each car couples at just the right speed.



UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK.....PITTSBURGH.....CHICAGO.....SAN FRANCISCO

(Continued from page 25)

Asked about the ICC's formula for allocation of expenses between freight and passenger services, Mr. Rice passed the opportunity to tangle with the technicians. He did say, however, that he wouldn't decide whether or not to take off a train on the basis of its showing by the formula.

Passenger Service Makes Friends

Mr. Rice is among those who think losses on passenger operations should be appraised in the light of the goodwill created. "Passenger service," he says, "is one of the railroad industry's greatest mediums for making friends. A good train can do more to 'win friends and influence people' than any public relations or advertising campaign the railroads have yet hit upon."

How Mr. Rice strives to make the most of this public-relations opportunity is pointed up by his "welcome aboard" message, found on seats of RF&P trains. It is a brief, informal message which goes on from its greeting to thank the traveler for his patronage, to call his attention to the train's modern appointments, and to invite use of the diner.

Mr. Rice is also a personnel-minded executive. He puts great store in getting to know his associates and winning their cooperation. What he considers the "greatest compliment" paid him since his election to the ACL presidency is an "Open Letter to Our President and Friend" which he received from "The RF&P Family." The "family" was out to congratulate him and welcome him home when Mrs. Rice and he returned to Richmond after the ACL announcement had been made in New York. The "open letter" referred to the fact that the news was now out and then went on to say:

"We have seen you grow, both in ability and achievement, during your 11 years as a member of our fine family, and have known for some time that we have been associated with one of the outstanding railroad presidents in these United States—and we knew that one of the larger railroads would be calling you. Frankly, we were not surprised—not even a wee bit—and, although we regret that you are leaving us, we wondered what took them so long to see what they have been missing.

"The love, esteem, and respect that each of us has for you cannot be measured in mere words. Our loss will be keen because we will miss that personal relationship which has always been so much a part of your administration. Our greatest consolation is that our loss will be a definite gain for the Atlantic Coast Line Railroad."

Mr. Rice was born at Hague, Westmoreland County, Va., June 13, 1912. He received his B. S. degree in civil engineering from Virginia Polytechnic Institute in 1934. He then entered railroad service with the Pennsylvania, as an engineering assistant at Elmira, N. Y. Thereafter, he held various positions in that road's Oper-

ating Department on several divisions—until April 1942, when he was called to active duty with the United States Army as first lieutenant in a railway operating battalion. He served three years, during which time he was promoted to lieutenant colonel and placed in command of a part of the Iranian State Railway.

He returned to the United States in December 1945, and applied for a job with the RF&P—because he wanted to be in his native state. He was employed as supervisor of track, and seven months later he began his three-year assignment as superintendent of Potomac Yard. He was then transferred to Richmond as superintendent, and about two years later he was promoted to general superintendent. He became president on January 1, 1955.

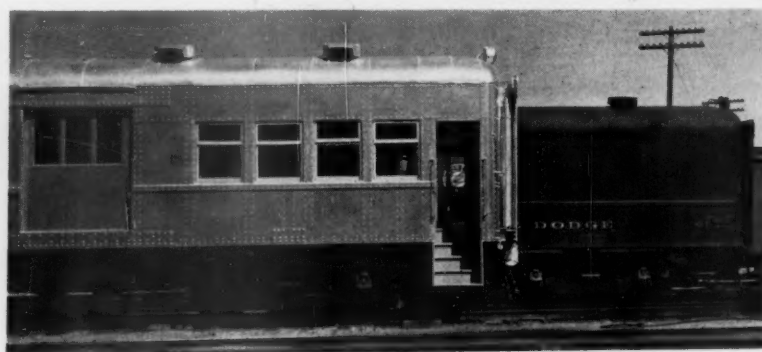
Mr. Rice was awarded the Legion of Merit with Oak Leaf Cluster during his foreign service. He is now a brigadier general in the Reserve Corps., and is deputy commander of the Military Railway Service Headquarters. Professional

organizations of which he is a member include the American Society of Civil Engineers and the American Railway Engineering Association. He is a certified professional engineer in Virginia, and has been active in many civic affairs of Richmond.

His shift to the ACL will involve Mr. Rice's family in the 16th move they have made since he started railroading. He says they don't mind, because they always look forward to making new friends, and they always have pleasant memories of places they have been.

He will take no associates with him to the ACL. He will give first priority to getting out on the road, meeting its people and learning about its problems and the territory it serves. He expressed these feelings about the move:

"I am pleased about the prospects of the new job. I have been most happy in my present one and leave it with most pleasant feelings. My hope is that I can again be as successful in making friends and winning the support of my staff."



"G-E" Car Gets New Lease

This 25-year-old "gas-electric" car is coming to the rescue of a loss-leading Minneapolis & St. Louis passenger run.

By putting passenger seats in what was formerly an all-head-end car, the M&StL hopes to cut losses on its Albert Lea-Albia, Iowa, run and still offer adequate service to passengers who use the line. Also, the road will be able to sell a streamlined 85-ft coach which has provided far greater capacity than needed on this particular run.

M&StL's Cedar Lake shops put 12 seats in the rear portion of the car, which actually is powered by a Caterpillar diesel. The passenger compartment is air-conditioned with a "package" unit.

Exterior-wise, the car has been painted aluminum with red striping and lettering to conform both to the road's new paint scheme and to the general appearance of the two Budd RCD-4's used between Minneapolis and Des Moines.

Prime reason for the conversion was the loss incurred in the service. "Our fixed costs—not the common-cost formula of the ICC—show we are actually losing about \$35,000 a year on the Albert Lea-to-Albia passenger train," reports President A. W. Schroeder. "We believe the conversion is worthy of a thorough experiment and its costs will be watched closely."

If the experiment pans out, the M&StL will consider doing a similar job on the cars which operate between Minneapolis and Watertown, S.D.



There are dollars for you in

Edgewater
multiple-wear

rolled steel
wheels

Welcome savings are available to you in Edgewater Multiple-Wear Rolled Steel freight car wheels. The extra mileage they give means lower ultimate cost. Edgewater skill and experience in the production of solid rolled steel wheels assures highest quality.



Edgewater Steel Company • P.O. BOX 478 • PITTSBURGH 30, PA.



Piggyback Steps Ahead As Roads

Railroads on both sides of the fence which divides piggybacking into its two most popular forms are actively—though cautiously—planning for the day when a trailer will be loaded in Chicago (or perhaps even in the East) and landed on the Pacific Coast.

Roads which seek revenue from handling trailers of motor common carriers, as well as roads which consider common-carrier link-ups a form of heresy, are showing signs of increased interest in the long hauls.

Up to now, transcontinental piggyback movements have been confined largely to special shipments on special rates. There haven't been many of them. But even so, experience gained to date is sufficient to be the foundation for tariff studies, and some roads which adhere to the "all-rail" piggyback concept are gradually building the necessary rate structure.

More noticeable activity, however, is currently coming from the "common-carrier" camp, one inhabited by a relatively small but growing number of roads. For instance:

—Southern Pacific, champion piggybacker of its own trailers, is talking with at least three motor carriers about handling their trailers up and down the Pacific Coast. Some trailers already have been piggybacked experimentally.

—Rock Island is known to have approached a number of Chicago-Denver truckers with what one of them has called

an "attractive" proposition for a new piggyback service between those points.

—Chicago & North Western, latest enlistee in the common-carrier camp, is expected to begin Chicago-Omaha service this week as a first supplement to its six-week-old Chicago-Twin Cities operation.

These developments don't add up to a transcontinental "Plan 1" piggyback service, to be sure. In fact, motor carriers which are discussing piggyback with the SP stress that they are merely experimenting. But at least one competing transcontinental line believes that if these "experiments" are successful, Plan 1 piggyback shortly will become an integral part of SP's systemwide freight traffic picture.

These, then, are the manifestations of interest in common-carrier piggyback in new areas of the West:

Pacific Coast Service

Southern Pacific is talking to motor carriers and building flat cars. The road is discussing possible agreements with Consolidated Freightways, Pacific Inter-mountain Express and Los Angeles-Seattle Motor Express. Primary haul under discussion is Los Angeles-San Francisco-Portland, but the two forms of transportation also are casting an eye at SP's rail route across the Sierras to Ogden. Consolidated Freightways has signed a substituted-service agreement with SP and the railroad has piggybacked a few of that truck line's

trailers from Los Angeles to Portland.

Both the railroad and the motor carriers point out that much remains to be cleared up. PIE, for instance, recently negotiated a new contract with the Teamsters which requires it to run a certain minimum number of highway hauls—a minimum which apparently covers nearly all of the line's regular traffic volume.

Equipment, too, presents a problem. West Coast size and weight limits being what they are, most PIE trailers are too big to be piggybacked through some of Southern Pacific's tunnels on standard flat cars. One PIE man observed that it would be impractical for the motor carrier to "hand-pick" equipment to be piggybacked.

Southern Pacific's latest flat cars, however, may have a bearing on this situation. Sacramento shops currently are turning out 150 "Clejan-type" piggyback cars which by their construction reduce the overall height of a piggyback load (Railway Age, June 3, p. 11). SP's announced plans are to use these 79½-ft cars to haul the trailers of its own motor-carrier subsidiary, and is doing some of that now, between Los Angeles and San Francisco. But one common carrier indicates that it will consider adapting its trailers for use on the "Clejan" cars if piggyback becomes feasible for it at all.

Reports crop up now and then that the Rock Island is planning a through common-carrier piggyback haul from Chicago to the Pacific Northwest in connec-



◀ SOUTHERN PACIFIC'S "OVERNIGHT," with rail-owned trailers, heads south on 470-mile California run.



FIRST TRAIN of Chicago & North Western's new common-carrier piggyback service arrives at St. Paul.

Study Coast-to-Coast Service

tion with another railroad. But if the report is true, the Rock Island is keeping mum about it. Mum's the word, too, on any joint arrangements with the Southern Pacific over the Golden State Route.

A Chicago-Denver haul, however, is known to be one the Rock Island is considering. Again, nothing has yet been decided with the truckers. Talks are still going on.

The Rock Island has taken the first step toward providing itself with a fleet of piggyback flat cars, whatever its plans may be. The road's shops have converted two box cars to flats suitable for trailer loading and the cars are currently under test. Hints have been dropped that conversion of 200 cars may be coming. Ten standard flats are being used to haul trailers of the subsidiary Rock Island Motor Transit; and the railroad has, of course, its 50 ACF "Convert-A-Frate" flat cars.

New Omaha Service

Among the miscellaneous piggyback "hardware" being developed, incidentally, is a novel unloading system for "Convert-A-Frate" containers. The Rock Island and Link-Belt Company have been working on a system which would transfer the boxes from truck bed to flat car much as drawers slide out of a file cabinet. The device could be used, if it proves satisfactory, at points where traffic doesn't justify a fork-lift truck.

July 31 should see the expansion of Chicago & North Western common-carrier piggyback into new territory. The C&NW, which ran its first "TTX" train of "Trailer Train" flats and common-carrier trailers to St. Paul June 17, is adding Omaha-Council Bluffs to its list of points served.

And all indications point to further increases in the service. Service to St. Louis could be next.

The expansion of common-carrier piggyback into new territories is not without its stumbling blocks, of course. Roads such as the Santa Fe and Union Pacific still consider all-rail piggyback the better plan, since the motor carrier doesn't come between the shipper and the railroad.

Opinions differ, too, on whether a motor common carrier could in effect invade new territories or measurably shorten its haul by means of railroad piggyback service.

Could Consolidated Freightways, for instance, which has motor-carrier rights from Los Angeles to Chicago only by way of Sacramento, southern Idaho and a route roughly parallel to the Union Pacific, piggyback its trailers over a much more direct rail route, say Southern Pacific-Rock Island? The problem remains to be resolved.

Charges for empty trailers are a bugaboo, too, in the view of at least one motor carrier. Roads which charge nearly as much for an empty trailer as for a loaded

one are failing to approach properly the problem of unbalanced traffic, some truckers feel.

Transcontinental Tariff This Year?

But meanwhile, back in the "all-rail" camp, activity is showing too. Before transcontinental piggyback can come into being a tariff must be built and filed, and that project is in the hands of a committee now. One railroad wouldn't be surprised to see more-or-less regular transcontinental operations under way by the end of the year.

To date, no railroad has connected its rail-billed piggyback operations into a transcontinental haul. Lacking suitable tariffs, there are either few through rates or actual gaps in the service on all lines, voids which have been filled occasionally when special movements were in prospect. Printing presses, for instance, moved coast-to-coast via two routes last March; rates for these moves, now carried in Lackawanna tariffs, would presumably be incorporated into new tariffs covering a wider range of commodities.

Work on transcontinental piggyback tariffs has progressed currently, one piggyback manager reports, to the extent that western traffic executives have accepted transcontinental piggyback "in principle." The arduous task of building a structure of logical, compensatory rates is being attacked behind the scenes.

New Dunnage Cushions with Air

Quick to inflate, easy to handle, a new air-filled rubber bag shows promise of winning widespread shipper approval by reducing damage and saving loading and unloading time

At least four important rail shippers already are praising the air-filled bags illustrated. Made of weatherproof nylon with a neophrene coating, and equipped with an inner bladder the way auto tires used to be, this inflatable dunnage has, in test shipments, rung up an imposing record of damage reduction, cut sharply into incidental costs by shippers, and speeded loading and unloading jobs by eliminating the need for blocking and bracing.

The inflatable bags are a development of the U. S. Rubber Company. Deflated units are 4 ft by 4 ft or 4 ft by 5 ft and weigh from 28 to 33 lb. They can be inflated from 1 to 10 psi, with pressure depending upon the type of packaging and the weight of the commodity being shipped. This pressure can be maintained for long periods, and, according to the manufacturer, the bags will meet all altitude and temperature changes found in the United States.

What Shippers Think

Extensive testing of the new dunnage idea has turned up some startling results. The general traffic manager of Masonite Corporation reports better than 50% reduction in transit damage on hard wall board. A spokesman for Container Corporation of America says the bags "save \$11.40 per car over wooden bulkheads and blocking." In one case, Container Corporation has turned back seven specially equipped box cars because the inflatable dunnage does the job better.

Lower bracing costs on carloads of carton board, averaging a saving of \$13.21 per car, is also reported by the Marathon Corporation of Menasha, Wis. Marathon now owns better than 100 bags.

One of the three shippers who used the rubber dunnage for several shipments sums up at least six advantages for this ride-on-air idea: Shipments arrive in better condition, cars are easier to unload, plant housekeeping is better because stockpiles of dunnage lumber are eliminated, elimination of the lumber saves money, cars can be more fully loaded and less cost is involved in breaking down a load.

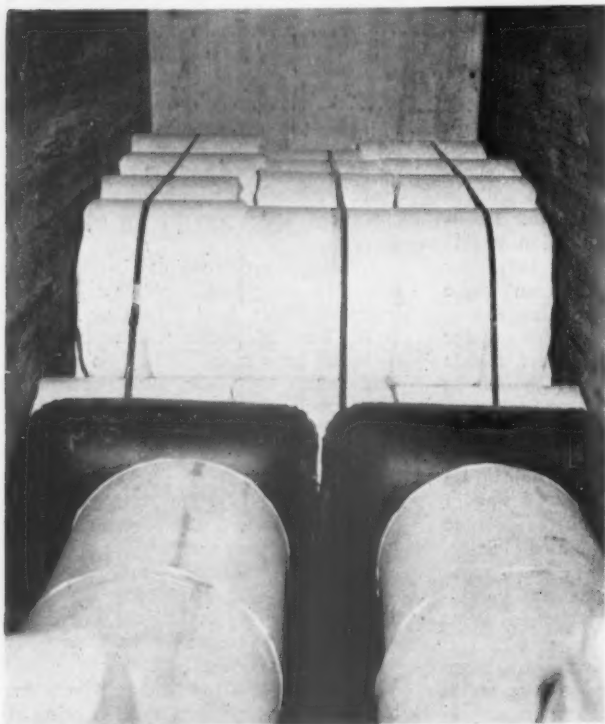
Empty Returns Hurt

Return of the deflated bags to a shipper is one problem which hasn't been answered yet. Leased trucks have been used in some cases; in others, the dunnage bags are boxed and returned by freight, express, LCL or LTL. An effort has been initiated to gain a lower rail rate classification for returning the bags LCL. At least one user has been sending the bags home by freight forwarder.

If the use of the air-filled dunnage grows, the empty return problem may solve itself. Already, on some interplant movements, the dunnage is being used in both directions.



RUBBER DUNNAGE, developed by U. S. Rubber Co., fits snugly between cartons in box car doorway. Bags are equipped with a large diaphragm valve and can be inflated to six lb in one minute.



PAPER SHIPMENTS come through with less damage.

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1957

Average operating mileage during period	Name of Road	Operating Revenues		Total (inc. misc.)		Operating Expenses		Total		Retire- ments		Trans- portation		Total		Operating ratio		Net railway operation		Railway tax accruals		Net Railway income	
		Freight	Pass.	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956
171	Akron, Canton & Youngstown	May	8536	8532	8228	770	871	36	815	365	816	8167	8416	8379	75.4	71.7	816	723	841	841	345	345
171	Akron, Canton & Youngstown	May	13,172	43,650	15,549	50,451	8,359	31,267	6,697	10,631	9,964	13,685	18,349	41,016	33,546	80.1	76.8	10,178	5,218	4,161	5,232	4,161	5,232
13,172	Atlanta & Santa Fe	5 mon.	2,226	.....	24,899	23,084	38,259	35,287	3,480	10,523	48,060	11,010	85,659	191,589	181,668	77.3	75.8	86,129	23,408	23,408	26,425	26,425
81	Atlanta & St. Andrews Bay	5 mon.	1,862	.....	1,817	204	212	33	344	143	143	33	344	831	831	40.8	40.8	1,070	479	394	394	349
93	Atlanta & West Point	May	240	39	334	349	47	47	18	146	295	300	300	300	300	83.9	83.9	30	30	10	10	18	
133	Western of Alabama	May	1,211	145	1,644	1,711	228	234	33	388	335	72	90	730	1,511	1,511	88.3	124	102	102	18		
133	Western of Alabama	May	1,377	27	1,345	1,377	52	46	4	75	19	20	142	1,307	2,906	89.0	87.7	383	33	22	22	23	
5,292	Atlantic Coast Line	May	5,292	1,069	14,593	16,912	2,739	2,739	3,085	3,085	3,085	3,085	3,085	3,085	3,085	1,524	84.2	7,225	1,276	1,276	1,276	1,276	
5,292	Atlantic Coast Line	5 mon.	59,940	8,729	74,145	76,183	10,582	12,953	875	14,437	14,876	3,189	2,794	58,841	61,906	79.4	80.1	15,304	8,725	4,711	4,711	4,999	
343	Charlotte & West.	Carol. May	641	.....	653	652	141	158	28	107	113	28	22	190	476	406	72.9	76.1	177	90	91	84
343	Charlotte & West.	5 mon.	3,100	.....	3,158	3,431	4,958	4,879	59	7,607	552	1,078	1,068	2,323	2,407	73.5	76.1	177	90	91	84	
6,006	Baltimore & Ohio	May	36,711	1,860	41,227	43,013	4,958	4,879	297	7,666	8,576	1,578	1,068	17,124	33,041	32,437	73.5	77.5	8,166	3,400	3,004	3,004	
176,600	Baltimore & Ohio	5 May	176,600	8,082	196,127	195,297	22,124	21,583	1,982	37,711	43,443	5,351	5,256	81,668	157,025	159,189	80.1	81.6	39,162	16,381	15,760	15,760	
29	Staten Island Rapid Transit	5 mon.	29	222	319	319	288	289	59	191	148	9	2	157	1,438	1,438	104.9	101.9	47	219	438	438	
602	Bangor & Aroostook	May	1,301	24	1,364	1,388	284	284	17	263	220	164	30	381	1,037	945	76.0	68.1	337	166	267	340	
602	Bangor & Aroostook	5 mon.	8,161	142	8,506	8,650	1,762	1,759	86	1,372	1,303	521	151	2,237	5,969	5,609	70.5	64.8	2,598	965	1,863	1,863	
2	Besemer & Lake Erie	May	2	9	9	9	2	9	3	3	408	160	171	2,339	7,799	7,799	80.0	60.6	1,918	2,053	2,068	1,841	
1,571	Boston & Maine	May	1,571	5,681	768	768	1,443	1,443	989	992	164	173	3,354	6,922	8,296	83.2	76.6	1,217	1,217	2,106	2,106	1,728	
1,571	Boston & Maine	5 mon.	28,840	4,197	36,911	37,154	4,197	4,891	772	4,891	4,890	930	791	17,839	29,746	29,590	80.0	80.4	7,175	2,106	2,216	2,216	
234	Canadian Pacific Lines in Me.	May	47	483	524	144	131	14	107	152	17	9	191	446	483	68.3	92.1	37	31	32	32	97	
234	Canadian Pacific Lines in Me.	5 mon.	3,400	238	3,993	4,021	533	609	97	677	715	87	45	1,383	2,748	2,748	68.4	74.0	1,245	156	739	549	
284	Central of Northwester	5 mon.	284	1,522	.....	1,550	1,769	292	319	36	624	53	54	19	396	871	908	56.2	52.9	349	275	349
1,763	Central of Georgia	May	1,763	3,458	130	1,309	2,855	2,819	245	3,171	2,854	812	887	7,327	15,174	14,729	81.8	78.2	3,374	1,282	2,066	2,066	
612	Central of New Jersey	May	612	4,380	543	5,226	5,108	515	589	93	942	926	160	80	2,266	4,068	4,125	77.5	80.8	1,158	482	1,489	1,489
383	Central Vermont	5 mon.	383	840	390	2,454	2,020	441	418	47	1,118	1,344	10	20	385	1,007	20,840	185.5	72.3	3,533	261	1,745	
5	Chesapeake & Ohio	5 mon.	5	4,232	300	4,876	4,070	85	609	465	602	52	89	1,987	4,025	3,694	88.5	87.3	251	1,649	853	728	
5	Chesapeake & Ohio	5 mon.	5,132	16,210	2,852	38,814	36,763	21,45	19,067	2,163	30,675	27,877	8,878	4,038	59,641	123,699	69.5	67.7	53,992	25,845	30,895	30,911	
862	Chicago & Eastern Illinois	5 mon.	862	2,741	192	3,133	3,150	409	364	30	541	140	140	1,240	2,363	16,950	85.1	81.1	3,077	1,684	1,393	1,858	
121	Chicago & Illinois Midland	May	121	749	.....	760	1,690	999	144	2,669	2,432	793	698	6,249	12,588	11,784	76.3	76.3	3,785	3,785	3,785	3,785
9,311	Chicago & North Western	5 mon.	9,311	3,435	1,488	13,309	3,442	296	241	33	509	470	121	154	8,775	13,889	1,896	53.3	1,649	853	753	728	
8,784	Chicago, Burlington & Quincy	5 mon.	8,784	17,136	7,594	20,690	20,762	3,615	3,668	364	3,820	3,820	939	635	8,553	17,613	16,950	85.1	81.1	3,077	1,684	1,393	
1,470	Chicago Great Western	May	1,470	3,999	9	3,257	3,031	476	424	497	484	131	121	979	2,038	2,159	66.3	67.2	1,098	494	418	397	
10,615	Chic., Milw., St. Paul & Pac.	5 mon.	10,615	17,997	1,175	21,390	21,671	4,379	4,297	441	4,829	3,949	861	810	18,717	18,403	87.5	84.9	2,673	1,630	1,390	1,559	
10,623	Chic., Milw., St. Paul & Pac.	5 mon.	10,623	86,133	5,623	101,895	100,928	17,031	16,462	2,121	19,950	21,025	4,283	2,743	41,596	87,786	85.5	87.0	14,735	7,718	4,232	5,885	
7,592	Chicago, Rock Is. & Pacific	May	7,592	14,932	1,282	17,675	16,411	2,836	2,326	257	3,096	2,862	587	548	6,782	14,176	13,917	80.2	79.4	3,499	1,446	1,058	
7,595	Chicago, Rock Is. & Pacific	5 mon.	7,595	71,461	6,718	85,363	79,915	11,955	10,100	1,291	14,729	13,955	2,959	2,816	33,176	66,438	62,141	77.8	77.8	18,925	7,737	6,549	
39	Cincinnati	May	39	1,280	.....	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
5	Cincinnati	5 mon.	5	2,017	.....	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017	2,017
5	Colorado & Southern	May	718	1,967	55	1,434	1,310	296	261	98	1,135	1,110	260	171	2,562	5,194	4,870	89.0	84.3	1,137	93	3,544	
5	Colorado & Southern	5 mon.	5	5,490	343	6,301	6,301	969	788	98	1,135	1,110	260	171	2,562	5,194	4,870	89.0	84.3	1,137	93	3,544	
1,362	Ft. Worth & Denver	May	1,362	1,341	150	1,693	1,741	281	295	31	257	267	45	69	729	1,451	1,439	85.7	82.7	242	14	46	
1,362	Ft. Worth & Denver	5 mon.	1,362	6,832	723	8,485	8,505	1,635	1,635	171	1,234	1,409	221	353	3,733	7,355	6,948	86.7	81.7	1,129	76	180	
39	Delaware & Wyoming	5 mon.	39	1,280	.....	1,991	1,675	120	120	165	56	14	69	1,138	1,611	1,611	97.1	69.9	853	491	340	
771	Delaware & Hudson	May	771	4,566	127	4,765	5,065	548	548	39	778	737	185	101	1,668	3,376	3,376	70.9	64.2	1,388	756	781	
771	Delaware & Hudson	5 mon.	771	22,591	750	23,941	23,962	2,813	2,585	267	3,899	3,503	992	492	8,145	16,782	15,834	70.1	66.1	7,159	3,961	3,725	
928	Delaware, Lacka. & Western	May	928	5,713	787	7,143	7,701	789	984	148	1,090	1,170	353	298	3,658	6,130	6,330	85.8	82.0	1,013	533	252	
2,155	Denver & Rio Grande Western	May	2,155	28,786	4,122	39,149	36,492	3,022	3,022	4,003	3,766	225	135	38	28	38	38	38	38	38	38	38	
5	Denver & Rio Grande Western	5 mon.	5	13,384	3,364	14,899	34,426	31,773	3,881	3,621	4,939	1,458	1,128	18,714	21,956	20,574	63.8	64.0	12,472	6,299	6,783	5,942	
50	Detroit & Toledo Shore Line	5 mon.	50	571	.....	3,014	3,014	69	571	64	3	772	68	34	19	213	382	415	63.2	58.4	585	461
38	Detroit & Toledo Shore Line	5 mon.	38	3,371	.....	3,814	3,814	387	415	16	398	349	118	99	1,175	2,1						

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1957

[illegible]

July 29, 1957

(Dollar figures are stated in thousands; i.e., with last three digits omitted.)

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1957

Average operating income	Name of Road	Operating Revenues				Deprec.				Operating Expenses				Net operating income	Net income						
		Total (inc. misc.)		Total		Total		Total		Total		Total									
		1956	1957	1956	1957	1956	1957	1956	1957	1956	1957	1956	1957								
		Pass.	Freight	Pass.	Freight	Pass.	Freight	Pass.	Freight	Pass.	Freight	Pass.	Freight								
2,132	21,389	260	22,636	20,795	3,043	2,729	313	4,328	4,768	985	386	6,467	15,260	14,425	67.4	69.4	7,376	4,554	3,777	3,393	
5 mos.	2,132	9,972	1,282	106,086	97,739	14,577	12,966	1,592	21,994	21,738	4,362	1,910	31,291	73,234	69.6	71.0	32,262	20,434	16,605	14,843	
5 mos.	604	4,549	...	4,600	4,301	1,001	1,051	78	851	607	138	263	4,141	3,937	64.0	66.0	1,828	517	380	278	
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
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5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
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5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183	2,862	15,736	15,745	3,244	1,721	270	2,927	18,238	661	4,013	6,236	13,798	81,995	87.7	88.1	1,938	1,741	715	1,532
5 mos.	6,831	66,183																			

BENDIX RADIO HELPS SPEED FREIGHT ON NORTHERN PACIFIC'S "MAIN STREET OF THE NORTHWEST"

Radio saves 30 minutes a day getting Train 603—a hot shot freight—through the Northtown yard.



IN DIESEL CAB, one bracket supports control unit, handset hanger and whistle cord. Loud-speaker, behind handset is mounted in the side of the utility compartment.



FROM THIS BENDIX CRC control position in caboose, conductor can talk to locomotive, waystation or dispatcher.



D. C. Hill, Superintendent of Communications, says: "Bendix Railroad Radio is doing a wonderful job for the Northern Pacific."

The radio-minded Northern Pacific is now increasing both the volume and speed of freight service over some of the most rugged territory in the country. They found that by using Bendix* Radio two-way installations, four-unit diesel locomotives could haul longer trains faster than before because radio helps keep them moving. "Meets" are made smoother, safer, faster. This added speed has already been reflected in more efficient and improved service to Northern Pacific's shippers.

The Northern Pacific started using radio at the end of World War II. Bendix Radio and Northern Pacific engineers worked together to test the practicability of radio communications in Northwest territory. This included crossing the Cascade Mountains, the famous two-mile-long Stampede tunnel, 5- and 10-mile stretches of 2.2 compensated grade, 43 miles of 1 percent grade and 37 miles of winding track through a canyon. *Helper engines are used crossing the Cascades. These are Bendix Radio equipped which enables them to communicate with both ends of an incoming train, thus speeding up the cutting-in process. Once coupled and ready to go, the two engineers can use radio to coordinate throttle settings and dynamic braking.* The result: Diesel-powered through trains covered the test territory in less than seven hours, as against about eight hours before Bendix Radio went into service.

Today the Northern Pacific has end-to-end radio on their entire trans-continental main line—over 2000 miles! Dual-frequency Bendix Radio units are used in locomotives, cabooses and base stations. Most base stations are located at 3-trick telegraph offices. Several are at one-trick locations and these can be operated remotely.

Because of the rugged construction, simplicity and reliability of Bendix Radio equipment, maintenance problems have been minimized. However, to take care of required maintenance and periodical inspection, Northern Pacific operates radio service shops at Duluth, Northtown, Minn.; Mandan, N. D.; Livingston, Montana and Parkwater, Pasco and Auburn, Washington.

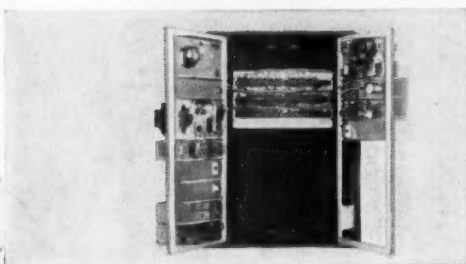
Find out today how Bendix Radio can help your operation. For the complete story, write to Bendix Radio, Railroad Radio Sales, Baltimore 4, Maryland.

*REG. U.S. PAT. OFF.



CROSSING CASCADE MOUNTAINS involves some of the most rugged territory in the Northwest. At the summit of the Cascade crossing is the two-mile-long Stampede tunnel, with five- and ten-mile stretches of 2.2 compensated grade on

either side. There are also 43 miles of one percent grade and 37 miles of winding track through a canyon. Bendix Radio helped diesel-powered through trains cut over an hour from the normal 8-hour run.



DISPATCHER CONTROL SYSTEM can be controlled by one or two telephone lines; operated on one or two radio channels; set up as attended or unattended station or as a local or remote radio station.



THE BENDIX PACK SET is available 3 ways . . . as a Han Pak (above), Shoulder Pak or Back Pak. Designed especially for railroads, it features dual-channel operation. Available with or without speaker.



BENDIX 1R54-C VHF COMMUNICATIONS UNIT (AAR Standard) with shack mount. Combines receiver, transmitter and dual-vibrator power supply in single, compact case. Available for 12-, 64-volt DC, 117-volt AC applications.

Bendix Radio Division

Railroad Radio Sales • Baltimore 4, Maryland



Freight Operating Statistics of Large Railways—Selected Items

Region, Road and Year	Miles of road operated	Locomotive-Miles			Car-Miles		Ton-miles (thousands)		Road-locs. on lines				
		Train-miles	Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross excl. loco rev. and tenders non-rev.	Net excl. loco rev. and tenders non-rev.	Serviceable	Unstored	Per cent B.O.		
New England Region	Boston & Maine.....1957	1,560	237,378	240,860	7,357	9,561	64.1	643,090	254,239	77	2	2.5	
	1956	1,562	265,954	271,870	11,988	10,275	63.8	683,028	263,340	65	1	1.5	
	N. Y., N. H. & Hfd.....1957	1,739	256,784	256,784	16,994	11,214	64.3	730,716	286,987	89	13	12.7	
	1956	1,746	279,220	279,504	16,366	12,207	65.5	773,299	306,857	85	12	12.4	
Great Lakes Region	Delaware & Hudson.....1957	771	176,022	181,073	6,527	8,999	66.8	645,435	334,232	39	3	7.1	
	1956	792	183,475	189,087	7,188	9,952	69.3	682,864	350,212	42	1	3.1	
	Del., Lack. & Western.....1957	938	266,279	275,856	24,195	11,632	66.9	767,397	324,961	63	2	6.6	
	1956	962	305,633	319,695	29,319	12,879	67.4	857,973	373,232	61	1	1.2	
	Erie.....1957	2,207	571,743	579,363	14,432	30,329	66.1	1,973,006	778,600	170	24	27.3	
	1956	2,225	587,354	593,874	20,248	33,043	68.4	2,053,457	826,979	163	19	25.7	
	Grand Trunk Western.....1957	951	247,075	256,341	1,931	7,935	58.9	568,698	222,601	51	2	5.9	
	1956	951	306,751	315,644	2,429	9,088	57.2	675,883	270,216	55	3	2.7	
	Lehigh Valley.....1957	1,134	215,424	218,250	6,193	9,437	64.2	638,880	279,618	32	1	2.9	
	1956	1,137	233,290	236,430	7,966	10,633	63.8	751,475	344,712	34	6	14.7	
Central Eastern Region	New York Central.....1957	10,570	2,245,196	2,270,465	105,350	91,598	58.3	6,776,388	2,957,486	496	3	8.8	
	1956	10,565	2,534,908	2,580,033	127,650	103,003	60.9	7,440,289	3,315,854	535	5	11.7	
	New York, Chic. & St. L.....1957	2,155	719,983	734,933	5,890	29,581	61.6	2,158,794	945,385	180	3	7.5	
	1956	2,154	753,530	776,262	8,237	32,285	65.3	2,286,971	1,033,942	173	1	1.2	
	Pitts. & Lake Erie.....1957	221	60,723	60,723	.....	2,761	64.4	239,675	145,331	15	23	11.7	
	1956	221	71,390	71,390	.....	3,140	65.7	274,181	169,540	15	2	6.6	
	Wabash.....1957	2,379	515,537	517,266	6,526	21,843	62.5	1,503,821	590,028	110	3	2.7	
	1956	2,381	501,604	503,662	5,768	23,079	65.2	1,525,836	599,644	109	1	1.2	
	Baltimore & Ohio.....1957	5,897	1,610,597	1,789,214	165,296	66,719	61.4	5,309,063	2,606,307	468	6	85	15.2
	1956	5,910	1,664,720	1,871,166	174,963	64,680	62.9	5,488,592	2,690,537	445	8	78	14.9
	Southern Region	Bessemer & Lake Erie.....1957	208	40,801	42,776	219	1,704	65.9	187,437	121,808	16	1	1.2
1956		208	49,895	53,914	156	2,465	60.6	286,710	183,884	16	3	4.4	
Central RR Co. of New Jersey.....1957		612	123,774	125,239	7,259	4,684	63.9	358,683	187,653	65	4	5.8	
1956		612	128,137	129,257	6,244	5,009	66.0	367,646	189,887	65	5	16.7	
Chicago & Eastern Ill.....1957		862	120,349	120,349	3,253	5,482	65.5	398,618	194,406	25	3	7.0	
1956		868	122,424	122,424	2,642	5,334	67.9	376,805	184,704	28	3	7.5	
Elgin, Joliet & Eastern.....1957		236	89,702	89,816	.....	2,275	62.4	221,363	83,521	40	1	1.2	
1956		236	94,590	94,861	.....	2,938	61.8	243,036	130,631	37	1	1.2	
Pennsylvania System.....1957		9,902	2,978,724	3,161,233	218,827	119,789	62.1	8,959,953	4,125,823	808	31	199	19.2
1956		9,892	3,051,098	3,257,769	244,640	133,770	65.4	9,758,832	4,676,385	798	15	373	31.5
Northwestern Region	Reading.....1957	1,303	353,810	355,943	11,664	13,497	60.7	1,137,092	603,999	166	21	18	8.8
	1956	1,305	375,500	378,242	13,267	14,607	63.5	1,192,385	643,534	159	7	27	14.0
	Western Maryland.....1957	846	170,342	176,697	9,700	6,934	60.3	609,748	341,275	47	1	2.6	
	1956	846	174,197	180,401	9,704	6,952	61.4	596,603	334,265	37	8	73	11.1
	Chesapeake & Ohio.....1957	5,067	1,541,129	1,546,738	30,557	69,112	54.7	6,313,224	3,496,866	574	12	133	21.3
	1956	5,067	1,567,926	1,589,188	43,664	65,048	56.4	5,742,174	3,159,163	480	6	16	7.2
	Norfolk & Western.....1957	2,110	792,938	853,133	68,104	39,635	56.0	3,824,551	2,112,843	200	4	12	4.8
	1956	2,103	769,068	881,265	64,026	36,318	58.1	3,504,471	1,944,624	235	4	3	2.1
	Atlantic Coast Line.....1957	5,283	789,441	789,457	10,343	25,433	57.5	1,953,286	860,689	127	1	4	3.1
	1956	5,278	907,281	907,284	10,120	28,442	58.3	2,156,426	927,234	215	1	2	2.9
Central Western Region	Central of Georgia.....1957	1,731	184,344	184,344	1,941	7,599	67.7	541,598	267,356	35	1	1	2.8
	1956	1,731	202,020	202,020	1,818	7,931	68.2	556,867	271,776	34	1	2	9.9
	Gulf, Mobile & Ohio.....1957	2,717	270,056	270,056	249	14,929	67.4	1,036,426	493,189	82	9	9	5.5
	1956	2,717	270,740	270,740	111	15,795	70.4	1,060,527	517,890	86	7	59	15.3
	Illinois Central.....1957	6,503	1,112,383	1,112,383	30,749	46,886	60.5	3,500,213	1,605,386	249	7	137	30.1
	1956	6,532	1,176,220	1,177,322	35,097	50,205	63.4	3,702,749	1,767,036	311	7	7	4.8
	Louisville & Nashville.....1957	4,713	861,765	863,953	14,592	31,836	60.2	2,488,531	1,253,457	139	7	2	11.2
	1956	4,714	856,300	860,887	16,626	32,609	63.5	2,452,564	1,249,008	182	16	25	4.7
	Nash., Chatt. & St. Louis.....1957	1,043	161,033	164,209	3,266	5,155	69.8	346,895	167,052	41	3	5.7	
	1956	1,043	173,116	177,647	4,306	5,905	71.5	387,584	187,979	50	3	5.7	
Southwestern Region	Seaboard Air Line.....1957	4,051	691,265	691,265	2,704	25,663	60.8	1,907,648	854,265	152	6	8	3.8
	1956	4,051	685,890	685,890	2,885	27,135	63.0	1,989,387	888,658	138	11	4	7.4
	Southern.....1957	6,251	839,389	839,459	9,724	39,296	65.9	2,666,179	1,245,339	175	12	16	7.9
	1956	6,259	896,059	896,119	13,233	43,755	67.7	2,847,367	1,319,758	279	2	8	8.6
	Chicago & North Western (*).....1957	9,252	858,394	858,436	9,420	30,358	61.2	2,270,713	901,740	191	22	39	15.7
	1956	9,344	853,815	855,884	12,023	34,904	66.7	2,402,361	1,046,389	188	1	1	3.1
	Chicago Great Western.....1957	1,437	134,567	134,567	195	8,118	68.1	562,922	266,565	31	2	6	6.1
	1956	1,437	131,604	131,604	202	7,718	71.8	508,098	240,152	31	19	6	4.6
	Chic., Milw., St. P. & Pac.....1957	10,607	921,465	939,177	18,552	40,014	62.9	2,828,696	1,263,671	269	7	13	6.6
	1956	10,633	924,369	939,279	16,878	41,718	66.8	2,824,015	1,288,599	276	7	13	4.4
Central Southern Region	Duluth, Missabe & Iron Range.....1957	565	81,026	81,469	1,023	3,492	51.9	358,515	215,930	63	12	7	8.5
	1956	569	105,498	106,253	1,506	4,639	50.5	475,841	286,640	70	7	9	1.8
	Great Northern.....1957	8,272	1,053,993	1,058,044	27,049	41,271	65.7	3,019,842	1,436,107	240	79	40	11.0
	1956	8,272	1,139,347	1,147,849	37,228	46,150	69.1	3,297,189	1,630,765	277	45	40	11.0
	Minneapolis, St. P. & S. Ste. M.....1957	4,169	408,531	410,636	2,302	13,765	62.1	986,794	433,966	84	10	3	2.9
	1956	4,171	380,277	381,596	1,319	13,356	66.2	899,511	411,199	90	10	3	2.9
	Northern Pacific.....1957	6,536	812,843	825,807	21,746	33,823	64.5	2,357,145	1,044,287	241	55	22	6.6
	1956	6,569	829,700	844,660	20,069	35,207	67.6	2,370,674	1,067,685	233	72	44	12.6
	Spokane, Portland & Seattle.....1957	944	139,155	139,155	1,293	6,018	71.7	415,093	200,290	51	1	1	1.9
	1956	946	144,027	144,123	1,288	6,418	73.9	423,485	203,616	53	1	11	17.2
Southwestern Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.).....1957	13,172	2,466,805	2,605,670	51,582	111,902	59.5	8,131,343	3,022,409	571	43	67	9.8
	1956	13,124	2,474,597	2,585,518	65,508	113,865	64.4	7,804,262	3,025,218	518	48	65	10.3
	Chic., Burl. & Quincy.....1957	8,750	994,512	989,954	25,431	43,431	65.1	2,925,353	1,251,570	144	48	35	15.4
	1956	8,771	1,010,925	1,005,819	23,305	46,278	70.5	2,989,678	1,339,694	199	43	45	15.7
	Chic., Rock I. & Pac.....1957	7,576	944,074	940,649	1,748	37,194	60.7	2,760,456	1,177,635	169	6	3	3.4
	1956	7,580	914,655	910,656	1,158	36,428	63.2	2,609,314	1,111,125	169	6	3	3.4
	Denver & R. G. Wn.....1957	2,155	291,148	311,857	29,000	14,555	71.8	1,007,786	494,754	76	6	5	5.7
	1956	2,155	268,165	287,974	27,237	14,244	71.5	961,832	465,152	66	12		

For the Month of April 1957 Compared with April 1956

Region/Road and Year	Freight cars on line			Per Cent B.O.	G.T.m. per train-hr.		Net ton-mi. per car-mi.	Net ton-mi. per train-mi.	Net ton-mi. per car-mi.	Car-miles per car-day	Net ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day	
	Home	Foreign	Total		excl. locos. and tenders	incl. locos. and tenders								
New England Region	Boston & Maine.....	1957	1,865	8,225	10,090	1.7	41,994	2,716	1,074	26.6	824	48.4	5,432	2.5
	1956	1,560	8,366	9,926	2.2	40,824	2,576	993	25.6	800	48.9	5,620	15.9	
	N.Y., N.H. & Hud.....	1957	2,648	14,039	16,687	2.2	45,036	2,846	1,118	25.6	578	35.1	5,501	118.3
	1956	2,040	18,793	20,833	2.2	43,363	2,769	1,099	25.1	474	28.8	5,858	15.7	
Great Lakes Region	Delaware & Hudson.....	1957	2,235	6,086	8,321	4.9	65,487	3,683	1,907	37.1	1,381	55.7	14,450	17.9
	1956	1,591	6,367	7,958	4.3	64,628	3,738	1,917	35.2	1,452	59.5	14,740	17.4	
	Del., Lack. & Western.....	1957	4,863	10,203	15,066	2.9	51,068	2,939	1,244	27.9	680	36.4	11,548	17.7
	1956	3,256	12,734	15,990	2.3	49,677	2,852	1,241	29.0	766	39.2	12,933	17.7	
	Erie.....	1957	7,117	17,848	24,965	3.0	70,513	3,478	1,373	25.7	1,014	59.8	11,760	20.4
	1956	6,820	21,781	28,601	2.1	66,973	3,530	1,422	25.0	980	57.3	12,389	19.2	
	Grand Trunk Western.....	1957	4,701	7,874	12,575	7.4	50,309	2,319	908	28.1	580	35.1	7,802	21.9
	1956	3,952	10,287	14,239	7.1	47,894	2,228	891	29.7	650	38.2	9,471	21.9	
	Lehigh Valley.....	1957	4,262	9,985	14,247	3.8	66,647	2,985	1,307	29.6	651	34.2	8,219	22.5
	1956	7,902	8,240	16,142	4.5	68,997	3,276	1,503	32.4	715	34.6	10,106	21.2	
Central Eastern Region	New York Central.....	1957	50,827	88,403	139,230	2.9	51,327	3,059	1,335	32.3	704	37.4	9,327	17.0
	1956	49,816	96,259	146,075	3.5	51,264	2,990	1,332	32.2	765	39.0	10,462	17.5	
	New York, Chic. & St. L.....	1957	8,909	16,791	25,700	7.9	53,124	3,048	1,335	32.0	2,225	62.2	14,623	17.7
	1956	5,348	19,329	25,277	4.9	53,387	3,098	1,401	32.0	1,350	64.6	16,090	17.6	
	Pitta. & Lake Erie.....	1957	3,351	9,849	13,200	8.4	56,768	3,961	2,402	52.5	355	10.5	21,920	14.4
	1956	2,839	9,106	11,945	4.1	60,956	3,872	2,394	54.0	475	13.4	25,572	15.9	
	Wabash.....	1957	9,218	10,109	19,327	3.4	64,175	2,931	1,150	27.0	999	59.2	8,267	16.6
	1956	8,784	10,247	19,031	4.8	67,289	3,056	1,201	26.0	1,048	61.9	8,395	22.1	
	Baltimore & Ohio.....	1957	46,535	52,012	98,547	4.4	50,435	3,361	1,650	39.1	880	36.7	14,732	15.3
	1956	45,772	51,612	97,384	4.3	50,461	3,351	1,643	41.6	922	35.3	15,175	15.3	
Southern Region	Bessemer & Lake Erie.....	1957	5,190	953	6,143	6.3	79,524	4,849	3,151	71.5	650	13.8	19,521	17.3
	1956	4,288	1,274	5,562	11.8	92,338	5,917	3,795	74.6	1,045	23.1	29,469	16.1	
	Central RR Co. of New Jersey.....	1957	2,101	9,982	12,083	6.8	43,408	3,006	1,573	40.1	517	20.2	10,221	15.1
	1956	2,167	11,866	14,033	6.0	40,913	3,026	1,563	37.9	459	18.4	10,342	14.3	
	Chicago & Eastern Ill.....	1957	2,564	3,364	5,928	11.1	61,138	3,330	1,624	35.5	1,035	44.6	7,518	18.5
	1956	2,528	3,450	5,978	6.5	53,274	3,086	1,512	34.6	1,035	44.0	7,993	17.3	
	Elgin, Joliet & Eastern.....	1957	7,694	10,293	17,987	5.6	21,153	2,589	977	36.7	151	6.6	11,797	8.6
	1956	6,618	10,324	16,942	5.0	20,917	2,701	1,452	44.5	248	9.0	18,451	8.1	
	Pennsylvania System.....	1957	96,430	95,421	191,851	7.6	52,814	3,087	1,422	34.4	716	33.5	13,889	17.6
	1956	97,843	93,621	191,464	6.3	54,961	3,281	1,572	35.0	812	35.5	15,758	17.2	
Northwestern Region	Reading.....	1957	12,669	19,140	31,809	3.2	52,227	3,214	1,707	44.8	620	22.8	15,451	16.3
	1956	10,027	23,492	33,519	3.4	49,584	3,176	1,714	44.1	654	23.4	16,438	15.6	
	Western Maryland.....	1957	5,097	3,868	8,965	2.6	52,783	3,667	2,052	49.2	1,091	40.0	13,447	14.7
	1956	4,093	4,719	8,812	2.5	50,051	3,503	1,963	48.1	1,217	41.2	13,170	14.6	
	Chesapeake & Ohio.....	1957	56,418	33,731	90,149	7.7	78,454	4,122	2,283	50.6	1,311	47.4	23,904	19.2
	1956	48,040	35,470	83,510	1.5	70,743	3,691	2,031	48.6	1,269	46.3	20,783	19.3	
	Norfolk & Western.....	1957	37,682	10,798	48,480	1.5	86,542	4,941	2,730	53.3	1,460	48.9	33,378	17.9
	1956	31,560	9,862	41,422	1.7	78,965	4,686	2,600	53.5	1,513	48.6	30,823	17.3	
	Atlantic Coast Line.....	1957	19,941	17,601	37,542	4.6	45,908	2,485	1,095	33.8	762	39.2	5,431	18.6
	1956	17,251	18,481	35,732	4.4	46,215	2,389	1,027	32.6	849	44.7	5,856	19.4	
Southern Region	Central of Georgia.....	1957	2,310	6,086	8,396	3.4	52,017	2,944	1,453	35.2	1,059	44.5	5,148	17.7
	1956	2,179	6,823	9,002	4.3	48,925	2,761	1,348	34.3	985	42.2	5,234	17.7	
	Gulf, Mobile & Ohio.....	1957	5,710	9,791	15,501	7.2	75,918	3,840	1,827	33.0	1,064	47.7	6,051	17.8
	1956	4,585	10,470	15,055	5.1	75,568	3,925	1,917	32.8	1,117	48.4	6,354	19.3	
	Illinois Central.....	1957	25,816	24,394	50,210	3.2	56,848	3,181	1,459	34.2	1,051	50.8	8,229	18.1
	1956	25,640	27,717	53,357	2.5	53,729	3,195	1,525	35.2	1,138	51.0	9,017	17.1	
	Louisville & Nashville.....	1957	27,892	14,372	42,264	4.2	51,923	2,894	1,458	39.4	1,010	42.6	8,865	18.0
	1956	26,903	15,581	42,484	3.6	50,324	2,871	1,462	38.3	961	39.5	8,832	17.6	
	Nash., Chatt. & St. Louis.....	1957	2,489	4,945	7,434	5.4	42,361	2,157	1,039	32.4	734	32.4	5,339	19.7
	1956	3,449	4,188	7,637	3.8	42,789	2,243	1,088	31.8	845	37.1	6,008	19.1	
Northwestern Region	Seaboard Air Line.....	1957	12,838	17,035	29,873	2.2	53,882	2,822	1,264	33.3	958	47.3	7,029	19.5
	1956	11,386	15,908	27,294	2.5	54,351	2,968	1,326	32.7	1,063	51.6	7,312	18.8	
	Southern.....	1957	15,733	24,888	40,621	4.4	53,299	3,187	1,489	31.7	994	47.6	6,641	16.8
	1956	15,819	27,181	43,000	2.5	54,733	3,189	1,478	30.4	1,042	50.6	7,029	17.2	
	Chicago & North Western (*).....	1957	21,955	31,143	53,098	5.4	47,300	2,674	1,062	29.7	581	32.0	3,249	17.9
	1956	17,638	37,053	54,691	4.2	49,581	2,858	1,245	30.0	645	32.3	3,733	17.6	
	Chicago Great Western.....	1957	1,906	4,440	6,346	3.1	78,322	4,191	1,985	32.8	1,405	62.6	8,183	18.8
	1956	1,404	4,385	5,789	2.6	75,934	3,874	1,828	31.1	1,458	65.3	5,571	19.6	
	Chic., Milw., St. P. & Pac.....	1957	30,960	29,516	60,476	5.8	59,787	3,077	1,375	31.6	703	35.4	3,971	19.5
	1956	27,828	31,708	59,536	6.0	58,992	3,062	1,597	30.9	716	34.7	4,040	19.3	
Central Western Region	Duluth, Missabe & Iron Range.....	1957	13,983	783	14,766	1.6	80,115	4,778	2,878	61.8	497	15.5	12,739	18.1
	1956	14,292	670	14,962	2.0	73,580	4,854	2,924	61.8	650	20.8	16,792	16.3	
	Great Northern.....	1957	23,562	21,375	44,937	3.2	57,133	2,896	1,377	34.8	1,090	47.7	5,787	19.9
	1956	20,133	22,061	42,194	3.0	56,123	2,935	1,452	35.3	1,270	52.0	6,571	19.4	
	Minneapolis, St. P. & S. Ste. M.....	1957	5,910	8,184	14,094	5.9	51,632	2,432	1,070	31.5	1,003	51.2	3,470	21.4
	1956	6,106	8,905	15,011	4.7	50,722	2,374	1,085	30.8	910	44.6	3,286	21.4	
	Northern Pacific.....	1957	20,265	18,151	38,416	3.6	60,199	2,909	1,289	30.9	980	49.2	5,326	20.8
	1956	18,120	16,770	34,890	5.9	57,772	2,873	1,294	30.3	981	47.8	5,418	20.2	
	Spokane, Portland & Seattle.....	1957	1,368	4,956	6,324	1.9	43,198	2,999	1,447	33.3	1,109	46.5	7,072	14.5
	1956	1,299	4,214	5,513	3.2	43,739	2,952	1,419	31.7	1,242	53.0	7,175	14.9	
Southwestern Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.).....	1957	59,275	37,965	97,240	5.6	78,341	3,302	1,227	27.0	1,062	66.1	7,649	23.8
	1956	48,075	38,118	86,193	3.4	74,549	3,163	1,226	26.6	1,190	69.6	7,684	23.6	
	Chic., Burl. & Quincy.....	1957	17,427	21,867	41,594	3.3	63,939	2,947	1,261	28.8	967	51.6	7,688	21.7
	1956	17,404	23,488	40,892	3.9	63,848	2,963	1,328	28.9	1,099	53.9	5,091	18.6	
	Chic., Rock I. & Pac.....	1957	11,478	19,901	31,379	3.9	59,628	2,860	1,218	30.5	1,174	60.9	4,886	20.9
	1956	11,478	19,901	31,379	3.9	59,628	2,860	1,218	30.4	1,174	60.9	4		

Crossing-Accident Deaths Down Last Year

Last year's accidents at rail-highway grade crossings killed 1,202 persons, but that was the second best showing of the 1947-1956 decade. The best record of the decade was 1951's, with its 1,151 fatalities.

The 1,202 fatalities of 1956 compared with 1955's 1,313; injuries totaled 3,629 compared with 3,886; and accidents totaled 3,379 compared with 3,583. As to number of accidents per million motor vehicle registrations, 1951's rate of 51.8 was lowest of the decade, comparing with 1955's 57.1 and 1954's 52.5.

These and other crossing-accident figures were reported by the ICC's Bureau of Transport Economics and Statistics in its

"Transport Economics," as it previewed the commission's forthcoming compilation.

Sixty-seven per cent of the 1956 accidents involving motor vehicles resulted from trains striking such vehicles, while 33% resulted from motor vehicles running into the sides of trains. Daylight accidents, which represented 57.5% of the total number, accounted for 63.1% of the fatalities and 54.4% of the injuries.

Trucks, which represented 16.3% of the registrations, were involved in 22.8% of the accidents.

Buses were involved in five accidents, which resulted in injuries to 15 persons but caused no deaths.

only 3,103 cars was due to a 502-car increase in the bad-order backlog.

These figures were reported by Chairman A. H. Gass of the Car Service Division, Association of American Railroads, in his latest review of "The National Transportation Situation."

Car-line affiliates of Class I roads installed 464 new cars in June, so the month's installations totaled 8,131 cars. The car lines retired 291 cars, bringing total June retirements to 4,353 cars.

In this year's first six months, Class I roads and their car-line affiliates installed 49,168 cars, more than in any comparable period since 1949. Retirements of the six months totaled 25,552 cars.

Detention reports for June indicated that 20.32% of cars placed in that month were detained beyond the free time. That compared with 19.55% for the previous month and 20.25% in June 1956.

Latest performance data showed that freight cars in April produced an average of 994 net ton-miles per serviceable car-day. That compared with 1,028 for the previous month and April 1956's 1,037.

Serviceable Fleet Gained 3,103 Cars

The serviceable freight-car fleet of Class I railroads gained 3,103 cars in June.

The month's installations totaled 7,667

cars and retirements totaled 4,062, the net gain in ownership being 3,605 cars.

The fact that the serviceable fleet gained

Railroading



After Hours with *Jim Lyne*

TELLING PASSENGERS WHY—Claude Peterson, SP vice-president in charge of passenger traffic and public relations, has sent me a small sheaf of leaflets his company regularly uses to advise passengers—when ever any piece of customary equipment has to be omitted from the consist of one of the company's trains. If the dome car is in the shop, passengers are not just left to wonder what happened—but each one gets a factual explanation and apology. Bernal Quayle, SP manager of passenger traffic and p.r. at Portland, says: "It has been the policy of SP for years to inform passengers about substituted equipment."

The foregoing is by way of answer to the note I printed here on July 8, quoting Sales Management magazine as praising an airline for such apologies to passengers, and venturing the opinion that no railroad had ever thought of doing such a thing.

P&S Manager Curt Bayer of the Lackawanna tells of an experience he had on the B&O. He had a roomette in a lightweight car, which was out of service—so he was stepped up to a compartment in a standard car, with no extra charge, along with a printed apology. A friend in Cincinnati has sent me a copy of a similar printed note, used by the New York Central when standard cars have to be substituted for the special equipment of the "Xplorer."

OVERPASS ADS—I carried on some discussion here, a little while back, of the idea of painting slogans on overpass girders—to suggest that freight on the rail would diminish highway congestion. Asst. to President Bill Deaton of the EJ&E passed the thought along to Chief Engineer Shepley with results shown in a picture on page 11 in this issue.

"Route Freight Up Here—Keep Highways Clear"

This is how the slogan reads, and it appears on an EJ&E overpass at Sheridan road, North Chicago.

BIG CITIES IN TROUBLE—I saw the other day where New York City lost 120,000 in population from 1950 to 1957. In the three really urban boroughs (Manhattan Island, Brooklyn and Bronx), the shrinkage was much more serious—almost 350,000, or about 6 per cent.

The reason, of course, is that all the money these big burghs can lay their hands on they spend to improve highways—while they starve their rail and transit service and let it stagnate or dry up. Just compare the frequency of rail service into these big cities now with 30 years ago. The more and faster the highways are made, the harder it is to keep rail and transit service solvent. And the more people become dependent on autos. But who will drive an auto into a city if he can do his business in a suburb, where there's parking space?

Business and property values in big cities have their foundation laid on convenient rail and transit service. Looks to me as if some of these smart city planners are sawing off the limb they're sitting on.

MISPRONOUNCED NAMES—I recall in my early days of railroading—making out bills for light repairs to "foreign" cars—I got into an argument with a fellow-clerk over the full name of the Soo Line and how to pronounce Sault Ste. Marie. He insisted that Ste. was pronounced "stee."

There are still some people outside the Midwest who sound the ch in Chicago like the ch in church. And I'd be willing to bet that not half the people outside the region pronounce Boise as its residents do. Being a native of Missouri, I call the state just what Harry Truman calls it—"Mizzourah," but I don't believe I'm in the majority.

Are there any jawbreakers of station names in your part of the country? What name of a railroad or station do you suppose is most often mispronounced?

Do RR Apprenticeships Pay Off?

The industry cannot afford an 'ineffective, haphazard program' of selecting, training—and then keeping—its recruits, is consensus of first National Railroad Apprenticeship Conference.

Today's apprentice—tomorrow's supervisor, foreman, superintendent. Today's raw recruit to the crafts of railroading—tomorrow's competent, qualified, well-trained supervisory employee. Maybe.

It was to eliminate that "maybe" that some 80 representatives of railway labor and management met July 18-20 at Houston, Tex., in the first National Railroad Apprenticeship Conference. Their aim was to make a start on solving the three major problems of the apprentice situation—"get him, train him, hold him," as H. M. Hoffmeister, chairman of the conference, phrased it.

Mr. Hoffmeister, assistant to the chief mechanical officer of the Missouri Pacific, also gave the delegates a bit of "homework" in preparation for the next conference by suggesting that serious study be given to establishing a minimum standard of apprenticeship which would provide uniformity of training throughout the industry and yet be flexible enough for both large and small roads.

That's for the future. For the present, however, there remain the problems of (1) attracting promising youngsters into the railroad crafts; (2) giving them adequate training; and (3) devising some way to hang onto the finished product when the apprentices qualify as journeymen.

How does the railroad industry go about enlisting men into a 4-year-plus indenture, in a day when so many youths prefer to shun manual labor as long as there's money to be made elsewhere?

Mainly by making the apprenticeship program attractive—by updating the training schedule to reflect technological advances and then by going into the schools to "sell" the program to potential apprenticeship candidates. And "selling," the delegates agreed, means giving the high school boy the full facts about the program: What it is, what training it includes, what abilities it will develop.

Once young men become interested in apprenticeship, the industry's job turns to a "buying" angle: Which apprentice candidates shall be accepted and on what basis shall the decision be made? C. E. Sheldt, engineer and apprentice specialist of the Gulf, Mobile & Ohio, cited three important qualifications in judging candidates—a high school education as a minimum requirement, display of aptitude (measured perhaps by suitably designed IQ tests), and display of interest (particularly the type of interest which would lead an apprentice to improve his education through home study).

In connection with selection of appren-

tices, the common agreements giving preference to employees' sons came under fire from both labor and management representatives. It's time, delegates agreed, for the opportunity to be given to the most promising candidates, regardless of parental occupation, if the industry is to develop qualified mechanics through its own apprenticeship program.

Once an apprentice has signed on, then how does the industry best go about making him into a mechanic who will take pride in his craft?

The answer: By labor-management cooperation, as worked out through joint committees, general and local. John Grayson, Central of Georgia shop engineer, called the joint committee "the backbone of any program." But, he added, it must have the "unqualified support" of both labor and management if it is to succeed in its staff functions.

Selection of instructors came in for special mention. P. L. Shackelford, conference vice-chairman and international representative of the Sheetmetal Workers International Association, told the group that one of the biggest jobs in apprenticeship training is the selection of "mechanics with a little patience" to train the younger men and sell them on taking pride in their craft.

Three other speakers also had words for the training issue—D. R. Craft, man-

ager of equipment personnel, New York Central; Richard E. Martin, general chairman, sheet metal workers, Missouri Pacific; and Lewis F. Wood, general chairman, Brotherhood of Railway Carmen, St. Louis Southwestern. Each brought out a different feature leading to the same conclusion—that training schedules should be revised and updated.

Assuming an apprentice finishes his training in a railroad craft—what then? Does he find a railroad job, or does he take his skills to another field where the money may be bigger? And, how do railroads best prevent loss of apprentice "graduates"?

Here the discussion tailed off into generalities—this, it appears, is the real problem for which no definite answer has been found; the problem which has made a road feel fortunate to retain one out of every 10 boys who start training.

The delegates did, however, advance several suggestions for solving the apprentice-loss problem:

Better promotion policies to move qualified mechanics into supervisory jobs; "security or other benefits" to offset higher wages in other industries; retroactive seniority dates, to give an apprentice at least part seniority credit for time spent in training; a shorter apprenticeship period; increased efforts to provide more stability of employment—less "feast or famine"—in the industry.

The consensus as the delegates wrestled with the problem: A definite pattern must be devised to keep pace with physical developments in the industry; and the railroad business, in view of today's economic and competitive factors, cannot afford "an ineffective, haphazard program."

Honored as outstanding apprentices were Robert J. Reeves and James R. Walker, electricians, Missouri Pacific, Houston; Hercey D. Bolton, machinist, Missouri Pacific, Houston; William H. Causey, Jr., carman, Central of Georgia, Savannah, Ga.; and Alfred F. Savidge, electrician, Reading, Philadelphia, Pa.

The conference was held in conjunction with the ninth annual Southern States Apprenticeship Conference. The rail delegates (a majority of them labor representatives), came from more than a score of railroads throughout the country and included members of the electricians, machinists, sheet metal workers, boilermakers and blacksmiths, carmen, signalmen and firemen and oilers organizations.

Mr. Hoffmeister and Mr. Shackelford were reelected to head the group for another year. (Continued on page 44)

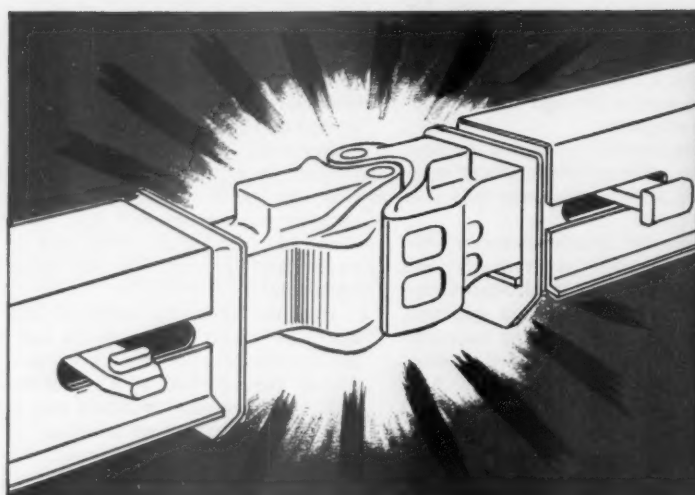


LEADERS of the First National Railroad Apprenticeship Conference get together before start of a panel discussion on apprentice training. H. M. Hoffmeister (left), assistant to the chief mechanical officer, Missouri Pacific, was conference chairman. P. L. Shackelford (right), international representative of the Sheetmetal Workers International Association, served as vice-chairman.

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That's how the Westinghouse *Friction Draft Gear* *absorbs* the forces between colliding cars; *equalizes* the speed of coupled, moving cars as

slack is run in and out, or as brakes are applied; allows serial action as long trains are started. Thus, by cushioning these otherwise destructive forces, the Westinghouse *Friction Draft Gear* protects rigging and car structure, cuts costly lading damage claims.

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MARKET OUTLOOK *at a glance*

Week's Loadings 14.6% Above Last Year's

Loadings of revenue freight in the week ended July 20 totaled 743,359 cars, the Association of American Railroads announced on July 25. This was an increase of 51,368 cars, or 7.4%, compared with the previous week; an increase of 94,867 cars, or 14.6%, compared with the corresponding week last year; and a decrease of 38,549 cars, or 4.9% compared with the equivalent 1955 week.

Loadings of revenue freight for the week ended July 13 totaled 691,991 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, July 13			
District	1957	1956	1955
Eastern	101,336	103,226	132,666
Allegheny	130,531	98,968	158,501
Poconchos	52,100	49,005	62,001
Southern	109,468	117,216	121,232
Northwestern ..	117,925	71,346	132,851
Central Western ..	123,779	121,820	126,727
Southwestern ..	56,852	58,407	60,160
Total Western Districts	298,556	251,573	319,738
Total All Roads	691,991	619,988	794,138
Commodities:			
Grain and grain products	70,765	66,337	74,617
Livestock	4,843	6,622	6,388
Coal	99,975	106,550	135,244
Coke	10,214	3,904	11,617
Forest Products ..	37,562	45,714	44,294
Ore	92,640	19,807	86,994
Merchandise l.c.l. ..	50,780	55,434	65,797
Miscellaneous	325,212	315,620	369,187
July 13	691,991	619,988	794,138
July 6	535,334	478,297	648,992
June 29	732,349	755,279	695,841
June 22	746,764	799,592	794,427
June 15	746,125	801,428	779,957
Cumulative total, 28 weeks	19,068,835	20,027,331	19,323,224

IN CANADA.—Carloadings for the seven-day period ended July 7 totaled 74,643 cars, compared with 91,866 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
July 7, 1957 ..	74,643	29,831
July 7, 1956 ..	81,284	30,284
Cumulative Totals:		
July 7, 1957 ..	2,011,250	874,863
July 7, 1956 ..	2,183,440	924,188

New Equipment

FREIGHT-TRAIN CARS

► **Freight Car Ownership Up.**—Class I roads owned 26,264 more freight cars on June 1, 1957, than on the same date a year ago, AAR report summarized below shows; with 77,784 cars waiting repairs, the ratio was slightly higher than a year ago.

	June 1 '57	June 1 '56	Change
Ownership	1,726,867	1,700,603	+26,264
Waiting repairs	77,784	70,149	+7,635
Repair ratio	4.5%	4.1%	+ .4%

► **Northern Pacific.**—Converting 25 box cars into flat cars for piggyback service; estimated cost of conversion, being done at Brainerd, Minn., shops, is \$1,600 per car; completion scheduled for August.

► **Virginian.**—Ordered materials for construction in Princeton, W. Va., shops of 500 70-ton hopper cars during second quarter of 1958.

LOCOMOTIVES

► **735 New Units Installed in First Six Months.**—Class I railroads installed 735 new locomotive units (731 diesel-electrics and four electrics), in this year's first six months, compared with 785 units (all diesel-electrics), in comparable 1956 period, AAR reports; new locomotive units on order July 1 totaled 462 (432 diesel-electrics and 30 gas turbine-electrics), compared with 796 (769 diesel-electrics, 15 gas turbine-electrics and 12 electrics), on order July 1, 1956.

► **Iran to Buy 50 Diesel Units Here.**—Export-Import Bank of Washington has authorized \$10 million credit to assist financing purchase in U.S. of 50 diesel units by government of Iran.

PASSENGER-TRAIN CARS

► **Baltimore & Ohio.**—Ordered two "Siesta Coaches," Budd Company, for assignment to "Columbian" between Washington, D.C., and Chicago; delivery scheduled for early 1958; B&O is first railroad in east to purchase these cars (Railway Age, July 15, p. 7), which provide room accommodations for both daytime riding and overnight sleeping; road will charge regular coach fares, plus new low space charge; "Siesta Coach"—which sleeps 40 persons—provides 32 private rooms paired in duplex style.

► **Canadian National.**—Ordered from the Budd Company one RDC-2 and one RDC-3 at total cost of \$360,000; delivery scheduled for August.

New Facilities

► **Duluth, Missabe & Iron Range.**—Ordered equipment from Union Switch & Signal-Division of Westinghouse Air Brake Company for installation of centralized traffic control on about 15 miles of single track between Allen Junction, Minn., and Aurora; train movements between the two points will be controlled and expedited by 5-ft style C control machine at Iron Junction.

► **Escanaba & Lake Superior.**—Michigan State Highway Department is replacing two-lane grade separation with four-lane installation between the E&LS and U. S. Highways 2 and 41 about 3.5 miles north of Escanaba; overpass project is being financed by highway department at cost of approximately \$200,000; contractor is Denison Contracting Company, Munising, Mich.

(Continued from page 41)

other year. Four new vice-chairmen were named to serve on an executive committee: Earl Melton, general vice-president, International Association of Machinists; Mr. Craft, of the NYC; G. O. Hawley, general chairman, International Brotherhood of Electrical Workers, Missouri Pacific; and C. G. Bahlman, assistant to the general superintendent of motive power and car equipment, Gulf, Mobile & Ohio.

NW Offers Short Course For Transport Officers

A three-week course in major transportation problems will be presented August 12-30 by Northwestern University's Transportation Center. The course, open to top-level executive personnel, will cover devel-

opment of U.S. transportation, quantitative approaches to transport problems, transportation finance, labor relations, and the role of government in transportation.

Inquiries should be addressed to Dr. John E. McGrath, assistant director of education at the center, 1818 Hinman avenue, Evanston, Ill.

REA Lifts Embargoes as 88-Day Walkout Ends

Railway Express service at seven key cities was resumed last week after a three-month tieup when the REA and Teamsters Union signed a strike-ending wage contract.

Settlement of the dispute was announced by the National Mediation Board. The new contract, affecting Teamster-repre-

sented employees at Chicago, Cincinnati, Cleveland, Newark, Philadelphia, St. Louis and San Francisco, provides for increases in wages and other benefits aggregating 29 cents, the NMB said. The contract runs to October 31, 1959, and provides for a 15-cent hourly raise effective January 6, 1956, 7 cents more on November 1, 1957 and another 7 cents on November 1, 1958.

Embargoes placed by REA with the start of the strike (Railway Age, Apr. 29, p. 10) were lifted July 22.

Third Quarter Car Loadings Seen Up 8.6%

An increase of 8.6% in the number of cars loaded with revenue freight in the third quarter of 1957 compared with the same period in 1956 has been estimated by the 13 regional Shippers Advisory Boards.

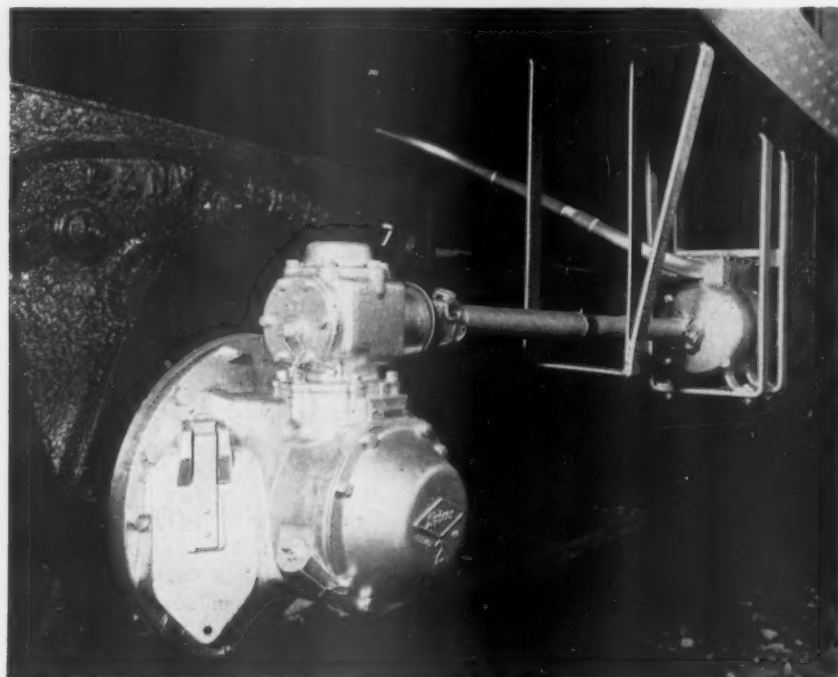
On the basis of the estimate, loadings of the 32 principal commodities will be approximately 7,769,134 cars, compared with 7,155,284 cars in the third quarter of 1956. Comparisons with the same period last year take into consideration the fact that steel workers were on strike from July 1 to August 5, 1956.

Nine boards predicted an increase in the third quarter this year over the same period last year, while four boards estimated reductions.

The tabulation shows actual loadings for each district in the third quarter of 1956, the estimated loadings for the third quarter of 1957, and percentage of change.

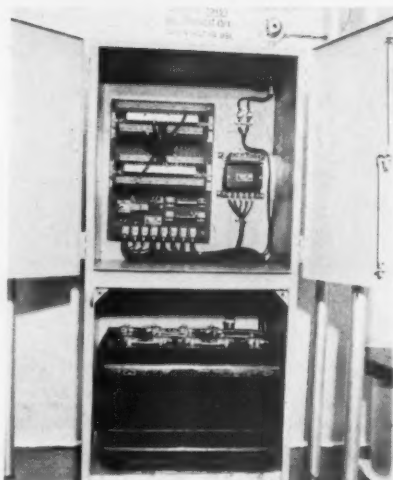
By commodities, the boards expect an increase in loadings of 21 and a decrease in 11.

Shippers Advisory Boards	Actual Loadings Third Quarter, 1956	Estimated Loadings Third Quarter, 1957	Percent Increase 0.5 dec.
New England	108,804	108,228	4.9
Atlantic States	730,951	768,553	5.2
Allegheny	711,233	821,642	15.5
Ohio Valley	1,003,028	1,034,721	3.2
Southeast	885,844	902,237	1.9
Great Lakes	510,167	590,107	15.7
Central Western	237,991	252,345	6.0
Mid-West	823,442	869,760	5.6
Northwest	554,883	561,408	55.2
Trans-Missouri			
Kansas	364,399	352,404	3.3 dec.
Southwest	510,544	515,923	1.1
Pacific Coast	411,943	406,093	1.4 dec.
Pacific Northwest	302,055	285,713	5.4 dec.
Total	7,155,284	7,769,134	8.6



C&NW Lighting System Cuts Costs Two-Thirds

Baggage cars on Chicago & North Western are being fitted with equipment above and at right in test of new lighting system said to cost two-thirds less to install in non-electrified cars than conventional gear. Twelve-volt system uses generator driven without belts from one of car axles (above). Nickel-iron-alkaline batteries and rectifiers are housed inside car (right). Batteries charge as car moves and are said to have 18-hour lighting capacity when car is stationary.



BLE 'Non-Pattern' Pact Adds up to 13% Boost

The Brotherhood of Locomotive Engineers signed with the nation's railroads on July 18 a wage pact that the union says amounts to a 13% pay hike for its 45,000 members over the next three years.

Grand Chief Engineer Guy L. Brown says the agreement is a "successful departure" from the so-called pattern settlement worked out between other brotherhoods and the railroads. The BLE contract was signed by members of the carriers' national conference committee and the engineers' National Wage Committee.

The pay boost is broken down, the BLE says, in three phases: a 6% increase retroactive to November 1, 1956; 3.5% more to be effective November 1, 1957; and 3.5% more on November 1, 1958.

The "pattern" settlement would have meant only a total of 11.4% in higher wages for the engineers, the BLE figured.

Organizations

American Association of Passenger Traffic Officers.—The 94th annual meeting will be held October 4-11, on board the "Queen of Bermuda," en route New York to Bermuda, and while in the islands.

Freight Claim Division, Operations and Maintenance Department, AAR.—Annual meeting for 1958 will be held April 29-May 1 at the Roney Plaza Hotel, Miami Beach, Fla. Freight Loss and Damage Prevention Section's "Prevention Day" is expected to be held April 30 at the same location.

National Small Shipments Traffic Conference.—Fifth annual meeting will be at the Biltmore Hotel, New York, September 24-26, with the executive committee meeting on the opening day and general membership sessions on the 25th and 26th.

Railroad General Agents Association of San Francisco.—Officers for 1957 are: President, George P. Schultz, Baltimore & Ohio; first vice-president, Eugene W. Pry, Pennsylvania; second vice-president, Ralph E. McGlothen, St. Louis Southwestern; third vice-president, David F. Diemer, Southern Pacific; secretary, Lloyd G. Pence, Kansas City Southern; treasurer, Peter Citron, Western Pacific; sergeant at arms, Henry F. Heck, Erie.

Southeastern Accounting Conference.—Newly elected officers are: Chairman, E. Mech, auditor freight receipts, Illinois Central; vice-chairman, W. Fred Bonney, comptroller, Tennessee Central; secretary-treasurer, E. J. Block, auditor freight accounts, Louisville & Nashville.

Southeast Traffic Club of Los Angeles.—New officers for 1957 are: President, Vern Gunderson, traffic manager, General Cable Corporation; first vice-president, James B. Milligan, traffic manager, A. J. Bayer & Company; second vice-president, Kenneth J. Wion, traffic manager, Ford Motor Company; secretary, Donald L. Brown, assistant traffic manager, Plomb Tool Company; treasurer, Floyd M. Huffine, Interstate Motor Lines.

Traffic Club of Chicago.—Newly elected officers are: President, C. H. Groninger, freight traffic manager, Baltimore & Ohio; vice-presidents, Walter N. Saaby, director of traffic, Victor Chemical Works, Carl M. Gautwick, general freight agent, Northern Pacific, Eugene Landis, general traffic



'Rocky' Touts GN Dome Cars in TV Role

Great Northern's high-hopping mountain goat "Rocky" reportedly led GN to highest pinnacle among railroad users of television spot commercials last year. Pioneer in such advertising, GN first

used animated cartoons to plug services in the spring of 1955. Last year, road says, it led all but Greyhound and two airlines among transportation advertisers in use of "spots."

manager, International Minerals & Chemical Company; secretary, Harry O. Mathews, general manager, transportation, Armour & Company; treasurer, R. P. DeGroote, general western freight agent, Luckenbach Steamship Company, Inc.

Toledo Transportation Club.—James L. Robinson, division freight sales manager, New York Central, elected president.

Trans-Missouri-Kansas Shippers Board.—Next meeting will be held September 19-20 in the Kenwood Arms Hotel, Springfield, Mo.

Financial

Applications

NORFOLK & WESTERN.—To assume liability for \$4,320,000 of equipment trust certificates, the second installment of a proposed \$12,900,000 issue, the whole of which would finance in part the building of 2,000 hopper cars in its own shops (Railway Age, June 10, p. 34). The certificates would mature in 30 semiannual installments beginning December 1. They would be sold by competitive bids which would fix the interest rate.

SOUTHERN PACIFIC.—To assume liability for \$6,000,000 of equipment trust certificates to finance in part the building of 720 freight cars in its own shops. Included would be 418 double-door box cars of which 300 would be built at an estimated unit cost of \$8,266 and 118 at \$9,221; 257 box cars with DF equipment and with estimated unit costs at \$12,804, for 203, \$13,658 for 49, and \$14,147 for 5; and 45 trailer flat cars at \$13,154. Estimated total cost of the equipment is \$7,501,877. The certificates would mature in 15 annual installments of \$400,000 each beginning June 1, 1958. They would be sold by competitive bids which would fix the interest rate.

Authorizations

CHICAGO, ROCK ISLAND & PACIFIC.—To issue not exceeding 140,000 shares of common stock without par value, pursuant to a proposed restricted stock option plan, to be sold to officers and key employees of the applicant and its subsidiaries. Proceeds are to be used only for capital purposes.

INDIANA HARBOR BELT.—To issue not exceeding \$8,125,000 of first-mortgage 5½% bonds, due June 1, 1982, to be sold at 98.15% of principal and accrued interest, and the proceeds, with treasury cash, to be used to pay at maturity, July 1, 1957 the principal and accrued interest on \$3,225,000 of 4% 50-year general mortgage gold bonds, and \$4,900,000 of 4½% 50-year general mortgage gold bonds.

PENNSYLVANIA.—To issue not exceeding 13,167,754 shares of capital stock of the par value of \$10 a share, in exchange for an equal number of shares of applicant's outstanding capital stock of the par value of \$50 a share (Railway Age, June 3, p. 15).

WISCONSIN CENTRAL.—To issue a 4¼% secured long-term installment promissory note in a principal amount not exceeding \$432,000, to reimburse its treasury for purchasing 50 box cars and to provide additional working capital. The note is payable in 96 equal monthly installments of \$4,500 each, secured by a chattel mortgage on the box cars, with other liens of the applicant subordinated thereto.

Dividends Declared

ATLANTIC COAST LINE.—50¢, quarterly, payable September 12 to holders of record August 1.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—common, \$5, semiannual; 5% preferred, \$1.25, quarterly, both payable July 31 to holders of record July 19.

LOUISVILLE & NASHVILLE.—\$1.25, quarterly, payable August 29 to holders of record July 30.

MICHIGAN CENTRAL.—\$25, semiannual, payable July 31 to holders of record July 21.

NEW YORK, CHICAGO & ST. LOUIS.—50¢, quarterly, payable October 1 to holders of record August 30.

NORTH CAROLINA.—7% guaranteed, \$3.50, semiannual, payable August 1 to holders of record July 20.

WHEELING & LAKE ERIE.—common, \$1.43¾, quarterly; 4% prior lien, \$1, quarterly, both payable November 1 to holders of record October 11.

People in the News

ALASKA.—Harold F. Brue, assistant real estate and contract agent, appointed real estate and contract agent, Anchorage, succeeding James J. Delaney, retired.

ATLANTIC COAST LINE.—W. R. Baker, assistant chief engineer signaling, Wilmington, N. C., appointed assistant chief engineer communication and signaling there.

M. T. Ridaught assistant to general freight agent, Wilmington, N. C., promoted to assistant general freight agent there and is succeeded by J. F. Harman. L. H. Morgan, commercial agent, Rochester, N. Y., appointed general agent, Boston, Mass.

BALTIMORE & OHIO.—John L. North, supervisor of personnel training, named regional master car builder, Baltimore, succeeding Howard W. Chew, who retired June 30.

A. E. Odell, assistant terminal trainmaster, East St. Louis, Ill., named terminal trainmaster there, succeeding W. D. Hunt, whose appointment as trainmaster at Connellsville, Pa., was noted in Railway Age July 8.

BANGOR & AROOSTOOK.—Howard L. Cousins, Jr., assistant to president, Bangor, Me., appointed also director of public relations.

BELT OF CHICAGO.—Charles L. Poole, general superintendent, Clearing, Ill., appointed assistant to president and general manager, Chicago. Emmott C. Harvey, superintendent, named to succeed Mr. Poole. Superintendent position abolished and functions of that office will be handled by the office of general superintendent in addition to jurisdiction over locomotive and car departments.

BESSEMER & LAKE ERIE.—Elmer J. Smith, Jr., appointed manager of industrial development. James A. Duff appointed industrial agent.

BOSTON & MAINE.—A. B. Virkler Legate, administrative assistant to the president, named executive assistant to president, Boston.

BURLINGTON.—E. R. Shrader, general superintendent, Eastern district, Galesburg, Ill., appointed assistant to general manager, Lines East of the Missouri river, Chicago, and J. C. Starbuck, general superintendent, Central district, Burlington, Ia., named to the newly created position of assistant general manager, Lines West of the Missouri river, Omaha, and their former positions abolished. The title of general superintendent of the Omaha, Lincoln and Wyomere divisions, Lincoln, Neb., changed to superintendent. I. C. Ethington, assistant superintendent of the Aurora (Ill.) division, appointed assistant general superintendent of transportation, Chicago. I. W. Crist, assistant to general manager, Chicago, named to succeed Mr. Ethington. E. D. Harville, assistant to general manager of Lines West, named assistant superintendent, Omaha division, succeeding M. L. Zadnick, appointed assistant superintendent, LaCrosse division, N. LaCrosse, Wis.

Titles of position of district engineer maintenance of way, Galesburg, Ill., Burlington, Ia., and Omaha changed to assistant engineer track.

H. P. Gillespie, division engineer, Alliance, Neb., transferred to Lincoln, Neb., to succeed J. L. Way, retired. T. D. Livingston, senior instrumentman, lines west of the Missouri River, named to replace Mr. Gillespie.

COTTON BELT.—R. H. Patterson, bridge and building supervisor, Pine Bluff, Ark., appointed assistant to chief engineer, Tyler, Tex., and is succeeded by E. R. Simmons, assistant bridge and building supervisor, Pine Bluff.

DELAWARE & HUDSON.—C. E. R. Haight, superintendent, Pennsylvania-Susquehanna division, Oneonta, N.Y., appointed chief engineer, Albany, N.Y., succeeding P. O. Ferris, who retires July 31. Joseph C. Brennan, engineer maintenance of way, Albany, succeeds Mr. Haight.

DENVER & RIO GRANDE WESTERN.—Ben Smith, material supervisor, Denver, appointed chief clerk of the purchasing department there, to replace Ralph O. Williams, promoted to assistant purchasing agent, succeeding A. J. Anderson, retired. A. L. Wernet named material and fuel supervisor, Denver.

SOUTHERN.—Charles G. Brown, Jr., commercial agent, Chattanooga, Tenn., promoted to district freight agent, Chicago, succeeding Willard V. Drischel, Jr. (Railway Age, July 15, p. 54).

Cecil D. Schwine, Jr., manager, Spencer (N. C.) shop, appointed superintendent motive power, Spencer. Manley H. Hammett, master mechanic, Spencer, succeeds Mr. Schwine. Lawrence S. Presson, Jr., general foreman car department-passenger, Hayne shop, Spartanburg, appointed master mechanic, Columbia, S. C. Paul T. Hoskins, general foreman, Chattanooga, Tenn., named master mechanic, Spencer.

James V. Webb, terminal trainmaster, Hayne-Spartanburg, S. C., appointed superintendent of terminals, Jacksonville, Fla., and is succeeded by G. W. Cruise, yardmaster, Atlanta, Ga. Andrew F. Downey, Jr., trainmaster, Greensboro, N. C., transferred to Charlottesville, Va., succeeding G. Selwyn King, transferred to Columbia. Joseph M. Williams, Spencer, named terminal trainmaster, Columbia.

OBITUARY

Louis C. Kusch, 66, retired assistant superintendent of dining and sleeping cars, Milwaukee, died July 15 in Wesley Memorial Hospital, Chicago.

H. C. Mitchell, who retired as general traffic manager of the Virginian in 1954, died July 17, after a brief illness, at Norfolk, Va.

Bruce H. Hamilton, 71, retired assistant superintendent of car service, Pullman Company, died July 21 at his home in Maywood, Ill.



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Supply Trade

William E. Glasby has joined the **Simmons-Boardman Publishing Corporation** as district manager at Philadelphia. Mr. Glasby attended Lehigh University and Franklin & Marshall College, graduating from the latter with a B.S. in economics. Following 15 years in engineering and sales with American Lava Corporation, a subsidiary of Minnesota Mining & Manufacturing, he was associated with the Western Railroad Supply Company, Chicago, as advertising manager. Mr. Glasby is a native of New Jersey. **Harry M. Blunt** has joined Simmons-Boardman as district representative at Cleveland, Ohio. Mr. Blunt, a native of Ohio, entered railroad service with the Erie in the superintendent's office at Youngstown in 1923, joined the Pennsylvania in 1926, and served in the freight traffic department of that road until his recent appointment with **Railway Age** and its allied railway publications.

Formation of **Adams Process & Engineering Company**, Columbus, Ga., as a division of **Benning Auto Parts**, has been announced. Increased acceptance of the Adams process of EMD diesel crankshaft reclamation resulted in formation of the new division, with enlarged facilities for reclamation work.

Current Controls Corporation has announced the opening of offices at 2900 Rowena avenue, Los Angeles, and 1255 Sansome street, San Francisco.

Vroman W. Riley, industrial communications engineer of **Motorola, Inc.**, has been named district sales manager of the central states area for the microwave and industrial control products department.

Robert Arany, assistant to sales manager of the power factor capacitor division of **Cornell-Dubilier Electric Corporation**, has been advanced to sales manager of the division.

Donald M. McDowell, acting manager of engineering of **LeRoi Division, Westinghouse Air Brake Company**, has been named manager of engineering.

Herbert E. Taylor, Jr., has joined **Philco Corporation's** government and industrial division as marketing manager for industrial products. He was commercial sales manager for **Federal Telephone & Radio Company**.

Robert A. Bussian has been appointed executive vice-president of the **Matisa Equipment Corporation**, Chicago Heights, Ill. Mr. Bussian was formerly executive assistant to the president and general counsel of the Ampro Corporation and Chicago subsidiaries of General Precision Equipment Corporation. According to an announcement, the decision to place Mr. Bussian in his new post follows a year of research and development by the firm in an overall program planned to "anticipate the demands for heavier, more efficient track equipment necessitated by the railroads' constantly increasing need for faster and smoother traffic on consistent schedules."



Robert A. Bussian

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The Oakite Fogging Unit is another such improver of end-results. Applying an efficient mist of Oakite soil-loosening detergents, it has done an "impossible" *rush job* of cleaning out a tallow encrusted car in only 6 hours... the *thorough* removal of asphaltic deposits in just 5 hours.

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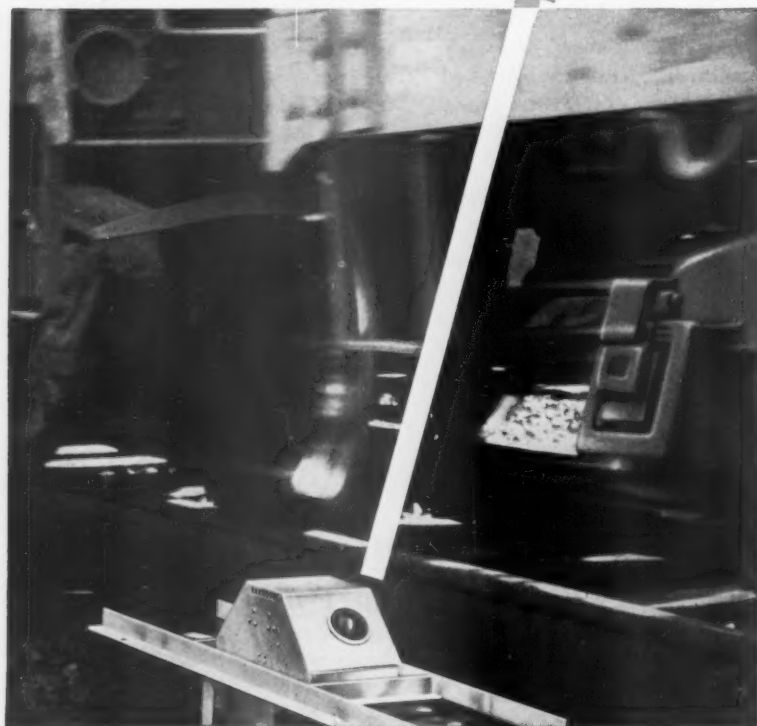
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All the details on the Uni-directional and Bi-directional Servosafe Hot Box Detectives, plus operating and engineering specifications are available for the asking. Simply request, on your company letterhead, TDS-7600A.



*I.M.

A Bigger Role

(Continued from page 23)

sity of moving their homes to the point of concentration of the work if they are to have further work opportunities.

This requirement to move uproots the family and imposes inconveniences, hardships and extensive financial burdens upon the employee. Previous skills are made obsolete, and seniority standings and opportunities for employment are substantially impaired. It is this human problem that the railroads generally fail to appreciate and frequently endeavor to ignore when making the transition to mechanized operations.

Our complaint against policies regarding mechanization is their failure to give consideration to the effect upon the work force. Such consideration is one of the primary essentials and must be dealt with in the initial planning.

Q. Do the increased or changed skills required justify reexamination of pay scales when automation is introduced?

A. Since the change from manual to machine operation will increase production and will require new skills and responsibilities, and the operation of these complicated machines will subject the employee to greater pressure and tension, both mentally and physically, the wage rates should reflect these increased contributions by the employees occupying the individual jobs. This must be subject to collective bargaining.

Q. Only those doing such work should be considered, is that right?

A. The increase in productivity resulting from the installation of these machines should be reflected in the conditions of employment and compensation of all employees of the carrier, and not restricted just to those employees whose work is mechanized.

Q. How many clerical employees are there in the railroad industry now compared, say, with 1950?

A. The average number of persons employed in our clerical divisions as reported by the ICC for the 12 months' average 1950 totaled 181,961. The comparable figure for March 1957 was 168,208.

Q. Would you care to comment on the outlook for such employment between now and 1965?

A. That's an awfully "iffy" question. Insofar as electronic computers and such machines are involved, the manufacturers say they have barely scratched the surface. I think we can expect rapid development over the next five years. Then there's the big question of how fast railroad managements will introduce such equipment, and what effect it will have on employment. About the only possible answer now is to suggest that a substantial reduction in clerical forces appears likely.

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Turning Ideas into Profits

“Loadability” is the quality of a commodity which makes it attractive as freight—primarily, high weight in relation to cubic feet occupied.

“Internal subsidies” are losses sustained in hauling some traffic which a carrier endeavors to offset by proportionately higher charges on other traffic.

“Incidental expenses to shippers” are those expenses a shipper must defray for transportation service, over and above the rates he pays to the carrier.

If railroad people were acutely aware at all times of the significance to railroad profits of the three foregoing terms, railroading would probably be a more lucrative business than it usually is.

Now take that word “loadability”—recently imported from Britain. It’s not an especially happy term, but it’s a mighty important one. It could almost be said that the railroads produce car-miles or cu-ft-miles and sell ton-miles. As Professor Kent Healy pointed out in his memorable address at the meeting of the American Economic Association last December—the cost of moving a 30-ton carload 500 miles is only 17½ per cent more than that of a 10-ton load. Railroading would be much more profitable than it is if the carriers in their rates were more hospitable than they are to heavy-loading commodities and less hospitable to those that load lightly (i.e., unless there’s a heavy premium on the light-loading).

Railroad earnings are infected with termites in the form of traffic that doesn’t repay its out-

of-pocket costs. Take a shipment which comes along in occasional single low-minimum carloads—and which involves three or four switching movements at both initial and final terminals. A switching movement of a single poor-paying carload, using up the time of a 5-man crew, can run into red ink mighty fast.

And the only (present) way of recouping the losses on these poor-paying occasional carloads with high terminal-handling costs is to collect more than would otherwise be necessary from the shippers in much larger quantities which need little terminal handling. Whatever “discrimination” law and regulation may find in charging more for a high-cost haul than a low-cost haul of the same commodity, common sense surely decrees that the high-cost customer should pay more.

It has often been truly asserted that there is no discrimination more repugnant to common sense than that of equal treatment of unequals. “Averaging out”—charging the low-cost customer the same as the high-cost customer is an “internal subsidy.” An internal subsidy is just as contrary to sound economics as subsidies from the government.

Sometimes the rate a shipper pays to a carrier is only a small part of his total transportation expense. The “incidental expense” (crating, loading, inventory troubles from slower service) of rail movement is often much higher than the incidental expense of highway movement—hence railway rates, to be truly competitive, must be sufficiently lower than those of highway carriers to offset the difference in incidental expense.

In competing for traffic, anything a railroad can do to decrease the shippers’ incidental expense is just as useful a competitive weapon as a lower rate.

SIMPLE IDEAS, BIG RETURNS: Most of the successful big businesses in this country—where not the result of luck—have risen from relentless obedience to a few sound but simple policies. Take Ford—with his low-cost assembly-line production, his low-price and high-wage policy (thereby increasing his potential customers by the millions). Similar simple and sound policies have given the electric utilities their handsome profits and explosive growth. Thought and effort in this direction should do likewise for the railroads.

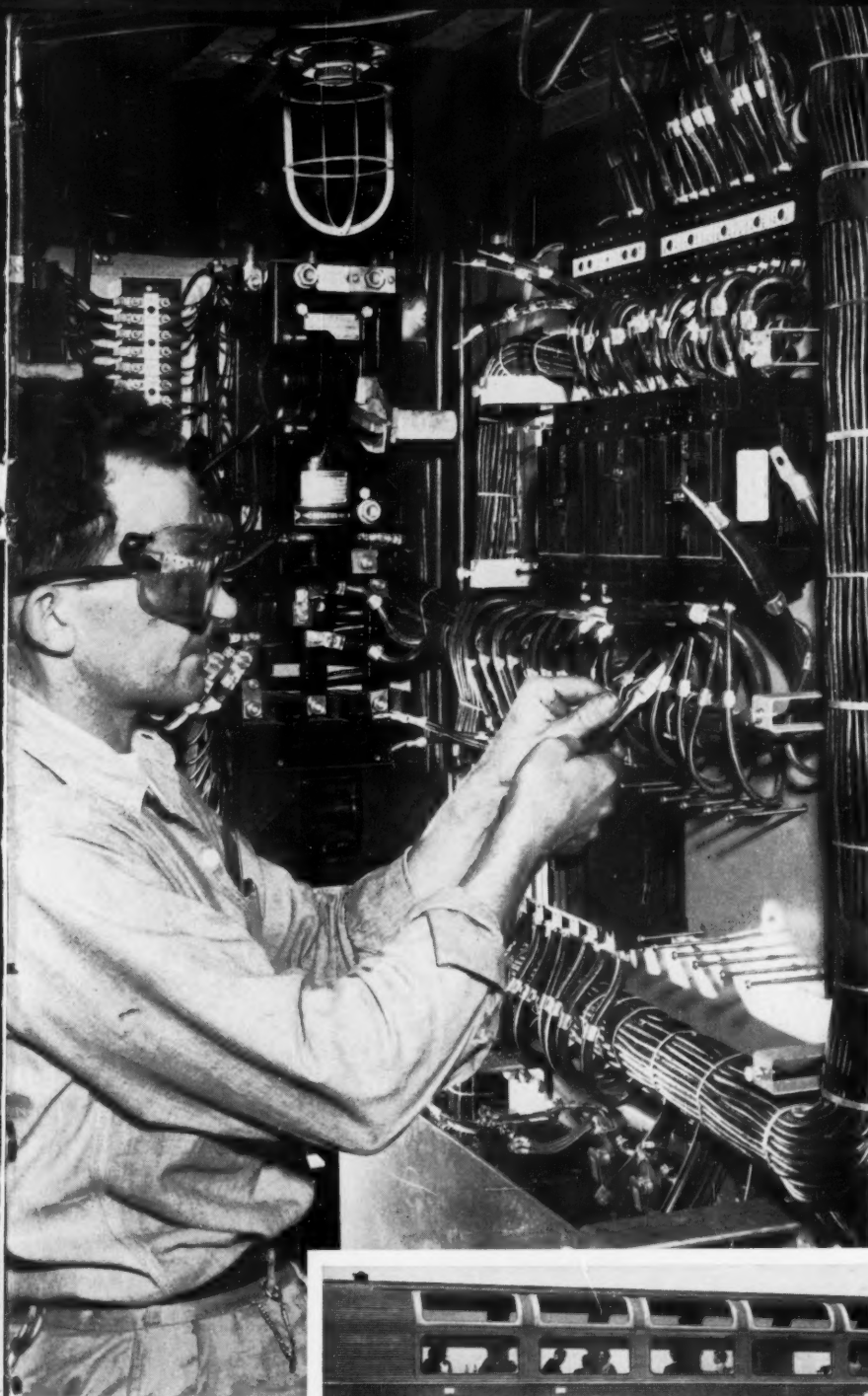
Santa Fe's new "Hi-Level" El Capitan is wired with Okonite-Okoprene

Heading out of the Budd shops and into transcontinental service has come the new "Hi-Level" El Capitan, an example of the Santa Fe's exacting standards for passenger comfort and convenience.

Many of the advanced features on this new luxury liner such as the service elevators, P.A. system, air conditioning and electric cooking, as well as the lighting, heating and other facilities, depend on electrical power. To provide long-lived circuit dependability, El Capitan is wired with Okonite-Okoprene car wire. This composite mold-cured insulation and sheath provides the electrical strength and mechanical toughness that Santa Fe considered necessary for this important new train.

The "Hi-Level" El Capitan typifies the reliance that Santa Fe, and over 100 other Class I railroads, place on Okonite cables for signal, communication, power, portable, car and diesel electric locomotive circuits that must not fail.

For further information about cables that have been developed specifically for railroad use, call your Okonite representative or write for Bulletin RA-1078 to The Okonite Company, Passaic, N. J.



This "Hi-Level" Sky Lounge is one of 47 new cars recently built by The Budd Co. for the Santa Fe's new El Capitan. Wired throughout with Okonite-Okoprene car wire, El Capitan is in daily service between Chicago and Los Angeles.



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